



# **Product Catalogue 2024 / 2025**

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### Trailer Telematics

Telematics is a powerful tool which uses real time data captured by a specifically designed GPS trailer tracker installed on the trailer connected to the trailers electronic braking system (EBS). This reads and reports the data to a live operator interface in order to monitor and improve vehicle utilisation and safety.

The tracker is mounted on the trailer at a suitable location in a weatherproof enclosure thus ensuring accurate and reliable reporting. The connection to the trailer's EBS ECU uses only the official auxiliary ports on the ECU, the EBS is parametrised to accept the tracker and provides all of the valuable information back to the reporting system on an easy to understand operator interface. This is achieved without cutting any wires on the trailer and without the EBS warranty's being invalidated. We have ongoing relationships with all three main ABS/EBS manufacturers: Knorr-Bremse, Haldex and Wabco

The user interface is simple to use and can be tailored to suit operator requirements allowing various detailed reports to be generated at the click of a mouse. This can range from a fleet overview to a drill down into a particular trailer at a specific time or location. Trailer speed, location, routing, weight, brake performance, tyre pressures and temperature can be reported to ensure compliance. Fleet and Driver optimisation can be predicted, planned and monitored including vehicle utilisation and service scheduling. Driver behaviour such as speeding, overloading or harsh braking can be monitored to provide targeted training thus promoting safer driving practices and reducing accidents.

Trailer telematics is extremely useful in monitoring, managing and optimising fleets to keep them safe and used to their best, with data at the operator's fingertips informed decisions can be made to ensure their vehicles are utilised effectively.

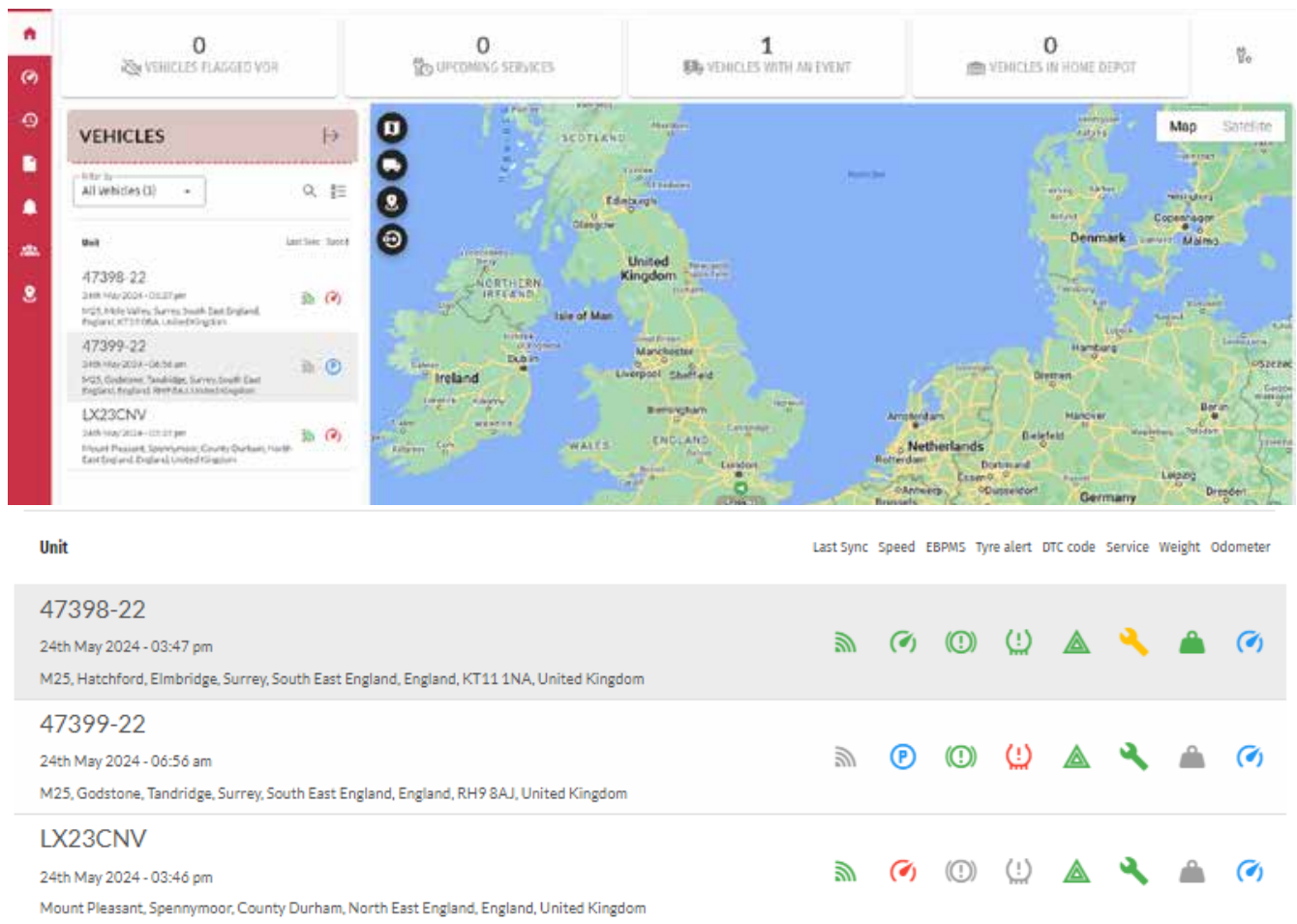


## Benefits of Telematics

Trailer to be fitted with Electronic Braking System - EBS.

### Trailer Utilisation monitor:

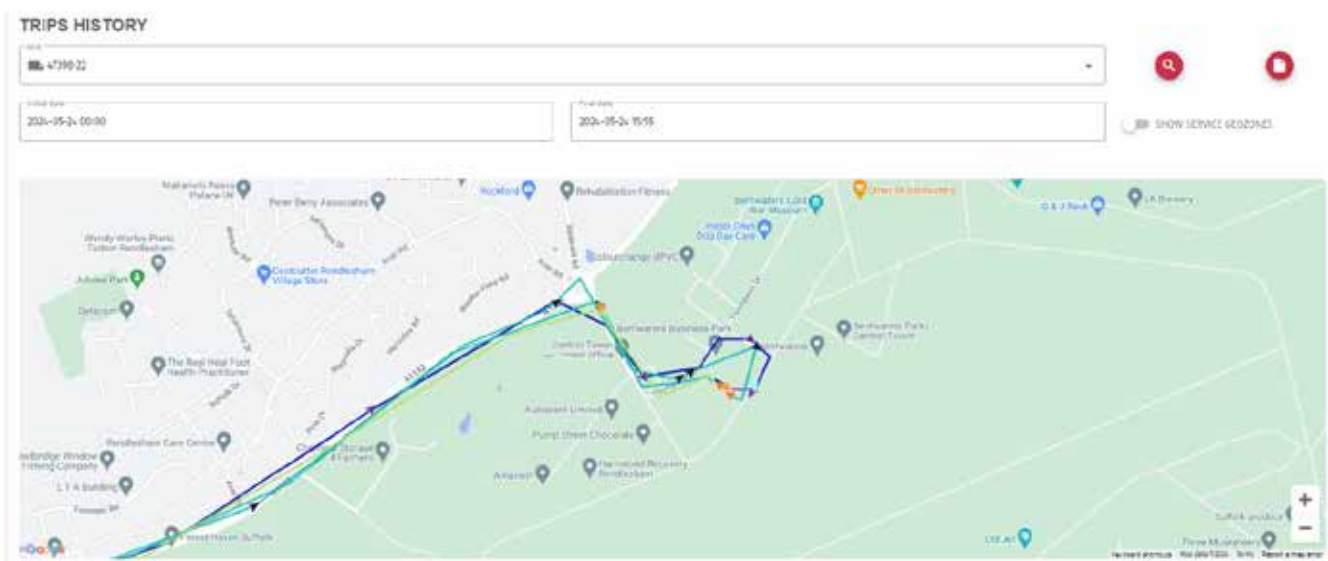
- Vehicle exact locations
- Routes taken – times at various locations on route
- Vehicle current and historical loading
- Vehicle running and stationary time
- Vehicle speeds
- Schedule routine maintenance
- Driver app to lead through and record pre use inspections
- All above if used correctly leads to better vehicle and driver utilisation, and record keeping



Vehicle Dashboard showing current location and vehicle condition in easy to understand Red Green Blue indicators.

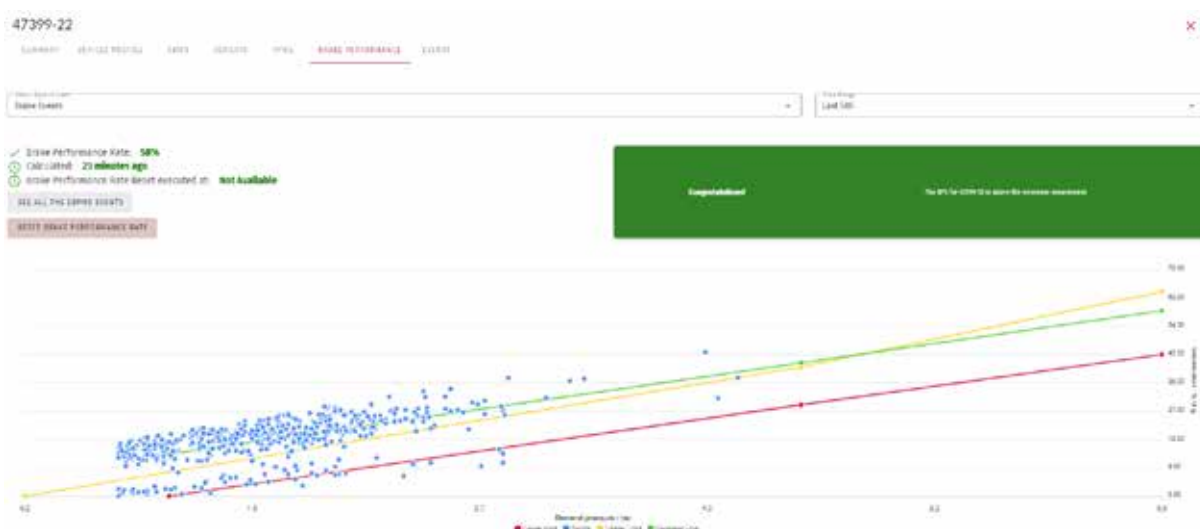


## Historical trip information



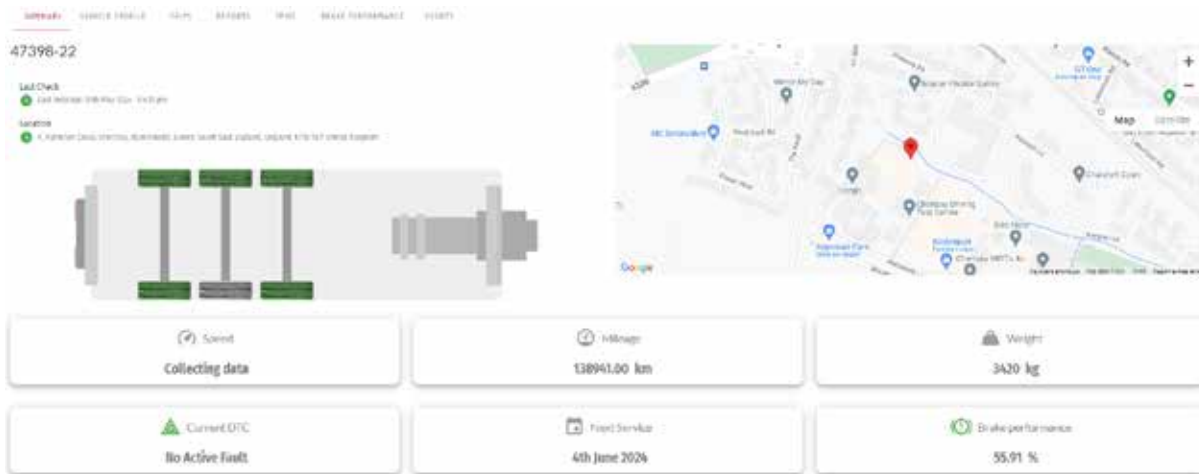
## Vehicle safety

- Electronic Brake Performance Monitoring system – Performance and faults
- Tyre pressure monitoring
- Warnings relayed to driver as well as vehicle operator.
- Leads to greater safety when in use, giving operator and driver live notifications



Electronic Brake Performance Monitoring, showing current and predictive performance, historical performance can be interrogated for any exact time.

## Vehicle data



Current vehicle status, Loading, Speed, Mileage, Weight, Faults, Brake Performance, next Service date, showing here a Tyre Pressure Warning

Reports can be generated and customised to operator requirements.

Telematics also allows vehicle to be tracked if stolen or misused.

# Firestone

## AIRIDE

### AIRMOUNT & AIRSTROKE



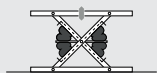
Firestone air springs make excellent isolators and actuators. When used as **Airmount** springs, expect over 95% isolation to protect delicate equipment, and support vibrating loads from damaging surroundings. As **Airstroke** actuators, they work in abrasive areas, can handle misalignment and angle motion, and with no seal to create breakaway force, react immediately.

**Airmount isolators** offer great alternatives to traditional coil springs and similar products made of metal, which are prone to corrosion, rusting and differing frequencies depending on load.

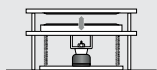
**Airstroke actuators** have long been used in the industrial market and are an ideal replacement for traditional pneumatic or hydraulic cylinders and the go-to pneumatic actuator for new and innovative machinery designs.



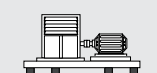
#### KEY APPLICATIONS



Vibrating Screen



Pivoted Clamping Device



Blower, Motor & Compressor

#### KEY BENEFITS



Optimized Load



Great Isolation



Compact Size



Extra Durability

# Firestone

## AIRIDE

### MARSH MELLOW

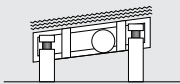
Firestone Marsh Mellow Rubber springs have long been used in isolation industrial applications field because of their reliability, corrosion resistance, low cost and basic simplicity. An excellent isolator, typically over 97% isolation, with no pinch points, it is a good alternative to coil springs.



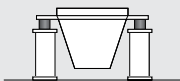
#### USE

- **Vibrating Equipment Isolation**  
Machines that use vibration to do work
- **Protecting the Surroundings from Normal Machine Vibrations**  
Machines that produce vibrations as a side effect of their function
- **Protecting Equipment from Shock**  
Impact Machines that generate shock as part of their performance

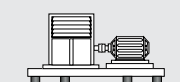
#### KEY APPLICATIONS



Vibrating Screen



Bin Hopper



Blower, Motor  
& Compressor

#### KEY BENEFITS



No Pinch Points



Great Isolation



Compact Size



Extra Durability



# Firestone

## AIRIDE

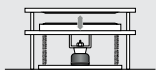
### MINISTROKE

Firestone Ministroke Actuators have long been used in the industrial market as pneumatic actuators incorporated into new and innovative machinery designs as well as replacement actuators for traditional pneumatic or hydraulic cylinders. They have advantages over traditional cylinders in that they are durable, operate well in corrosive and abrasive environments.

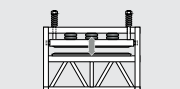


Table Data				Force Output at 100PSIG – 6,9 bar	
Style	Max. Diameter	Min. Height	Max. Stroke	1 inch	@max Stroke
1M1A-0	3,4 in. 8,6 cm	1,5 in. 3,8 cm	1,4 in. 3,6 cm	563 lbs 255 kg	500 lbs 227 kg
1M1A-1	3,5 in. 8,9 cm	1,5 in. 3,8 cm	2,0 in. 5,1 cm	613 lbs 278 kg	469 lbs 213 kg

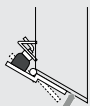
#### KEY APPLICATIONS



Pivoted Clamping  
Device



Actuated Heavy  
Duty Sealer



Hinged Gate

#### KEY BENEFITS



Adjustable Load  
to Air Pressure



Smooth Operation



Compact Size



Extra Durability

# Firestone

## AIRIDE

### POLYACTUATOR

Firestone Airstroke Polyactuators has been lab tested for millions cycles without product failure or performance degradation. This part is constructed from two pieces of polyurethane welded together to form a tight, tough seal. This product's compact size means increased flexibility for all conveyor designs. It's a great and lower cost alternative to pancake cylinders.

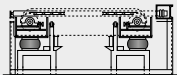


#### THE ULTIMATE SPACE SAVER

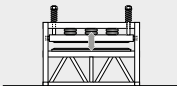
Our lineup is comprised of three models: **50-P**, **70-P** and the industry-leading **120-P** units, which can lift loads up to 570 lbs (259 kg).

For more details please check the next page.

#### KEY APPLICATIONS



Pivoted Clamping Device



Actuated Heavy Duty Sealer



Right Angle Transfer Section

#### KEY BENEFITS



FDA Compliant Polyurethane



Smooth operation



Compact Size



Extra Durability

## Axles with "through axle" piping

- "Through axle" system is neat and compact, all self-contained within the rim of the wheel to protect from damage
- No Pipes hanging over the side of the Trailer to get snagged or damaged when passing through gates, down narrow roads or operating right to the edge of fields like other over side systems



## Superior 2-line system

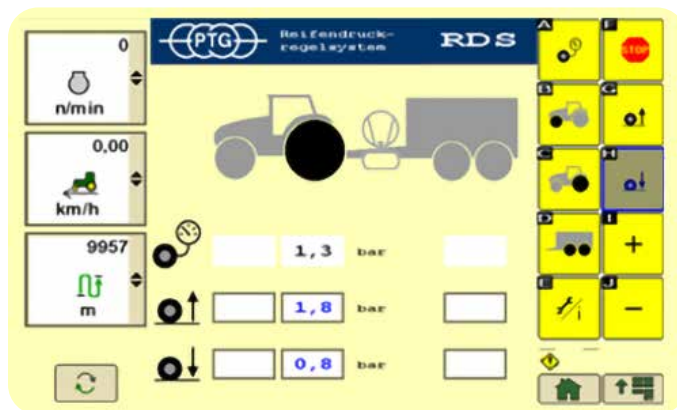
- Granning "through axle" configurations designed for 2-line inflation systems which are superior to 1-line systems.
  - No loss of pressure in 2-line system through pilot valve control on rims should any pipe or connection fail, as no pipes are pressurised unless altering tyre pressures.
  - Fully sealed through axle piping prevents leaks that could affect axle hub seals, or cause grease leaks or bearing failures on both fixed and steering axles
- Fast operating in cab control available to quickly change to specific pressure or to preset pressures.

## PTG Control system

Available in 2 versions of in-cab or on the move control



Digital in cab independent controller



ISOBUS integrated controls  
(through tractor onboard system)

## Why use Tyre Inflation



Modern high-speed tractors need different pressures for on road and off-road use, central tyre inflation allows both situations to be achieved easily.

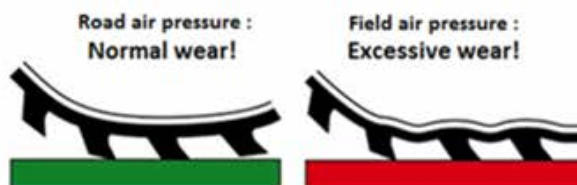
Correct pressure both on road and off road allows -

- Up to 15% fuel savings / Up to 4% increased productivity.
- Better tyre wear vs only using one constant pressure, reducing wear by up to 30%.
- Up to 75% more tyre footprint off road, with up to 33% less soil compaction, less damage to ground or crops.
- Improved stability and cornering both on and off road when at correct pressures.

Fuel consumption of 260 hp tractor towing 24,000 litre tanker



Stress in tyre cleats and casing



Tyre footprints and ground pressure with typical radial tyre



## C.T.I.S. Part Numbers

Part No	Decription
<b>CTI FIXED</b>	CTI CONVERSION KIT FIXED 100-300
<b>CTI FIXED 980</b>	CTI CONVERSION KIT FIXED 980
<b>CTI STEER</b>	CTI CONVERSION KIT STEER 100-300
<b>CTI STEER 980</b>	CTI CONVERSION KIT STEER 980
<b>CTIS TAN BASIC</b>	CTIS TANDEM, THROUGH AXLE, DIGITAL CONTROL
<b>CTIS-TAN-DC</b>	CTIS TANDEM, DIGITAL CONT
<b>CTIS-TAN-ISO</b>	CTIS TANDEM, ISO BUS
<b>CTIS-TRI-DC</b>	CTIS TRI AXLE, DIGITAL CONTROL
<b>CTIS-TRI-ISO</b>	CTIS TRI AXLE, ISO BUS



## Integral Geared Landing Leg



Part Number	31456
Length with Compensator S-foot	883mm
Extension	480mm
Bracing bracket dimension	580mm
Back plate type (position)	Full length
Mounting holes spacing	10 @ 57 × 190 (per side)
Gearbox protrusion from leg body	39mm
Leg mounting distance (cross-bar)	1525mm (1500mm)
Low speed ratio	0.87mm
Hight speed ratio	11.64mm
Lift capacity	25T
Static Capacity	60T
Weight Comparison	31442: 125kg (Standard Set) 31456: 120kg (New Set)

**Check our website for Standard Landing Leg specifications.**

## Fifth Wheel



Part Number	61100
Jaw Size	2 inch
Mounting Height (mm)	185
Vertical Load (kg)	20,000
D - Value (kN)	152
Oscillation Degrees	18
Weight (kg)	129.9
Max Gross Weight (kg)	65,000

## King Pins

Part Number	Size	D-Value (kN)	Rubbing plate thickness (mm)	Mounting Type
<b>31212F</b>	2 inch	165	8	8xM14 bolt 150mm PCD
<b>31267F</b>	2 inch	165	10	8xM14 bolt 150mm PCD
<b>31213F</b>	2 inch	165	12	8xM14 bolt 150mm PCD





# Axles

## Drum Brake Axles

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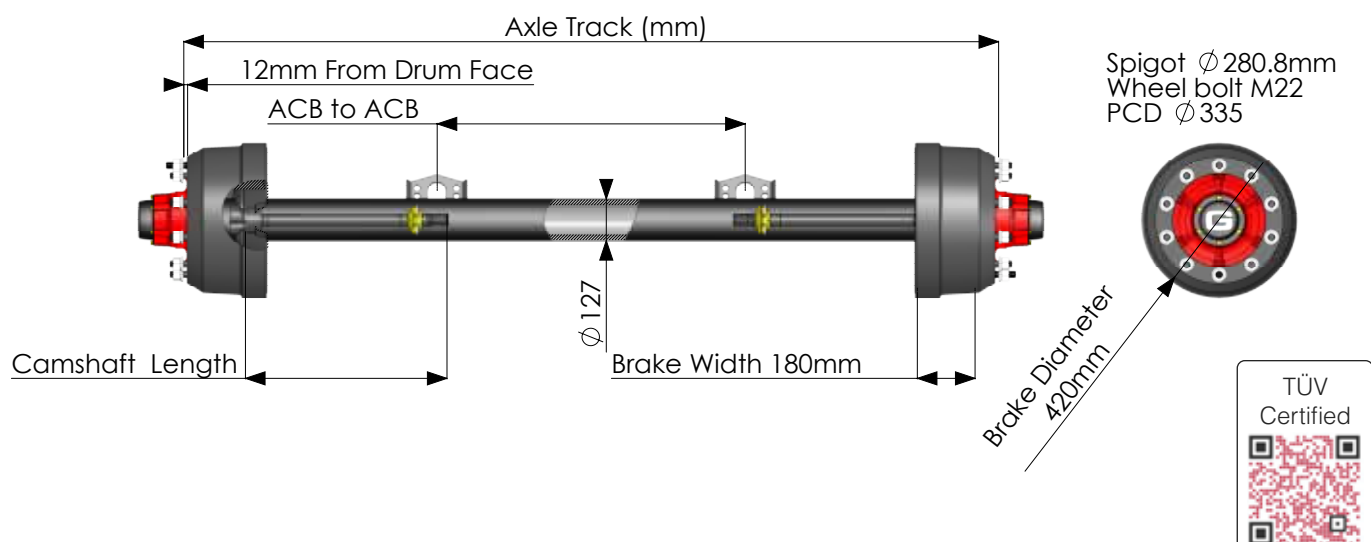


# 100 series



Part No	Brake Size	Beam Type	Track	Camshaft	ACB to ACB	Beam Capacity*	Brake Capacity*	Wheelbolt
<b>60183</b>	420x180	Ø 127mm	2045mm	618mm	493mm	11,000kg	11,000kg	MST
<b>60183FH</b>	420x180	Ø 127mm	2045mm	618mm	493mm	12,500kg	11,000kg	MST
<b>60145</b>	420x180	Ø 127mm	1920mm	618mm	369mm	11,000kg	11,000kg	MST
<b>60530</b>	420x180	Ø 127mm	1980mm	618mm	447mm	11,000kg	11,000kg	MST
<b>60174</b>	420x180	Ø 127mm	1850mm	618mm	298mm	11,000kg	11,000kg	MTT
<b>60117</b>	420x180	Ø 127mm	1820mm	519mm	466mm	11,000kg	11,000kg	MST
<b>60540</b>	420x180	Ø 127mm	2210mm	618mm	661mm	11,000kg	11,000kg	MST
<b>60126</b>	420x180	Ø 127mm	1820mm	618mm	273mm	11,000kg	11,000kg	MTT
<b>60128</b>	420x180	Ø 127mm	2150mm	618mm	598mm	11,000kg	11,000kg	MST
<b>60150</b>	420x180	Ø 127mm	2360mm	618mm	729mm	11,000kg	11,000kg	MST
<b>69110ADSQ</b>	420x180	□ 120mm	2024mm	618mm	469mm	11,500kg	11,000kg	DST

\* Values provided may vary depending on suspension overhang, speed, road conditions, offset wheels.

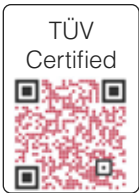
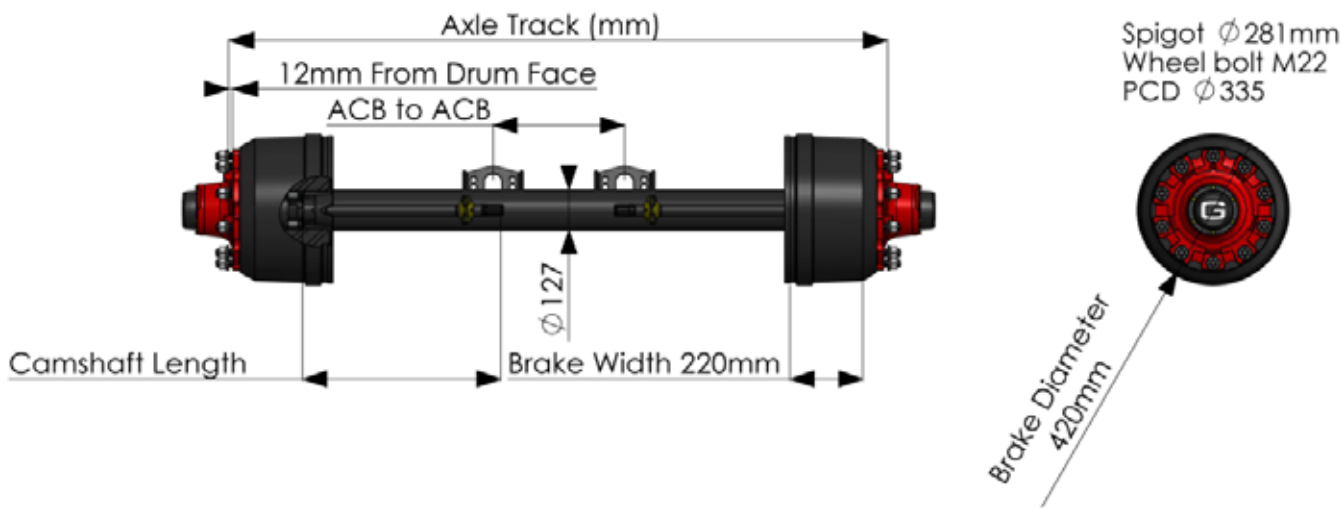


150 series



Part No	Brake Size	Beam Type	Track	Camshaft	ACB to ACB	Beam Capacity*	Brake Capacity*	Wheelbolt
60194	420x220	Ø 127mm	2045mm	618mm	409mm	11,000kg	11,000kg	MST

\* Values provided may vary depending on suspension overhang, speed, road conditions, offset wheels.

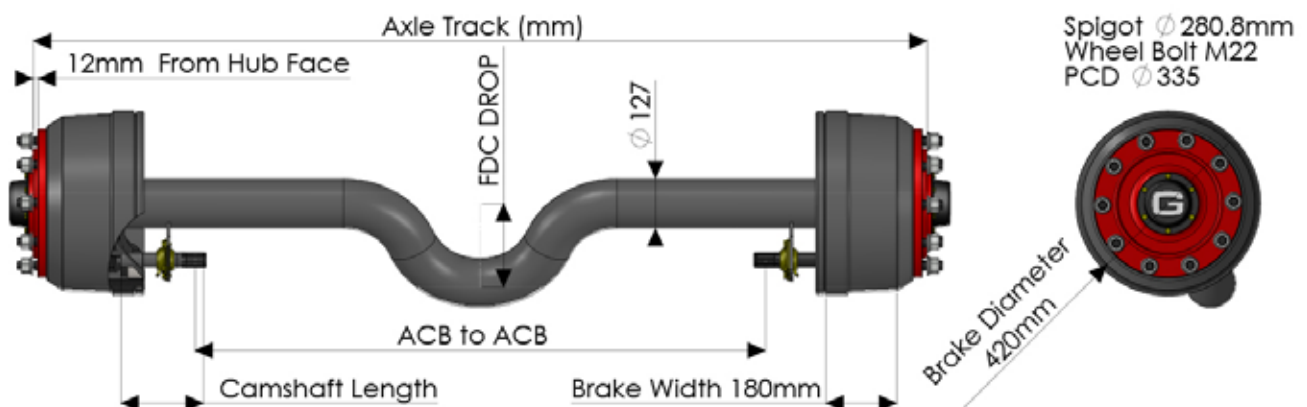


## 200 series

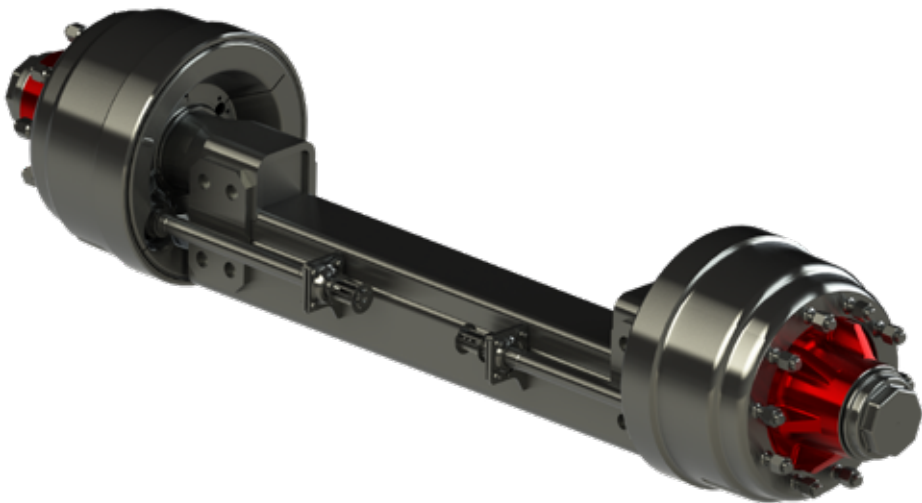


Part No	Brake Size	Beam Type	FDC / Straight	Track	Camshaft	Beam Capacity*	Brake Capacity*	Wheelbolt
<b>60233</b>	420x180	Ø 127mm	FDC 230mm drop	2286mm	212mm	7,500kg	11,000kg	MST
<b>60200</b>	420x180	Ø 127mm	Straight	2286mm	212mm	7,500kg	11,000kg	MST
<b>60227</b>	420x180	Ø 127mm	Straight	2286mm	618mm	7,500kg	11,000kg	MTT
<b>60228</b>	420x180	Ø 127mm	FDC 230mm drop	1700mm	457mm	7,500kg	11,000kg	MST
<b>60242</b>	420x180	Ø 127mm	FDC 230mm drop	1640mm	430mm	7,500kg	11,000kg	MST

\* Values provided may vary depending on suspension overhang, speed, road conditions, offset wheels.

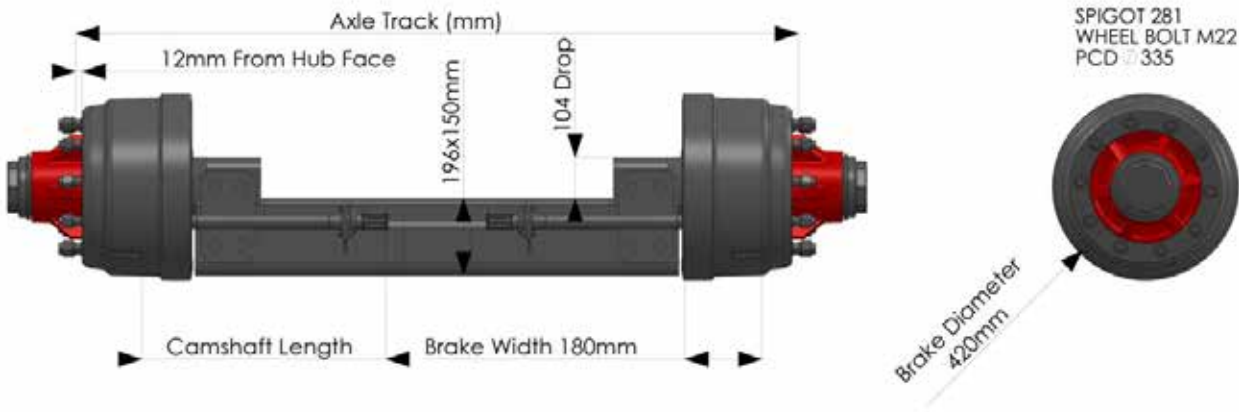


260 series (Heavy Duty)



Part No	Brake Size	Beam Type	Track	Camshaft	ACB to ACB	Beam Capacity*	Wheelbolt	Axle Drop	ACB Position
60260FD	420x180	□ 150mm	1830mm	558mm	350mm	14,000kg	DTT	104mm	Below Axle
60261FD	420x180	□ 150mm	2000mm	558mm	520mm	14,000kg	DTT	104mm	Below Axle
60263FD	420x180	□ 150mm	1830mm	218mm	1200mm	14,000kg	DTT	150mm	Above Axle

\* Values provided may vary depending on suspension overhang, speed, road conditions, offset wheels.



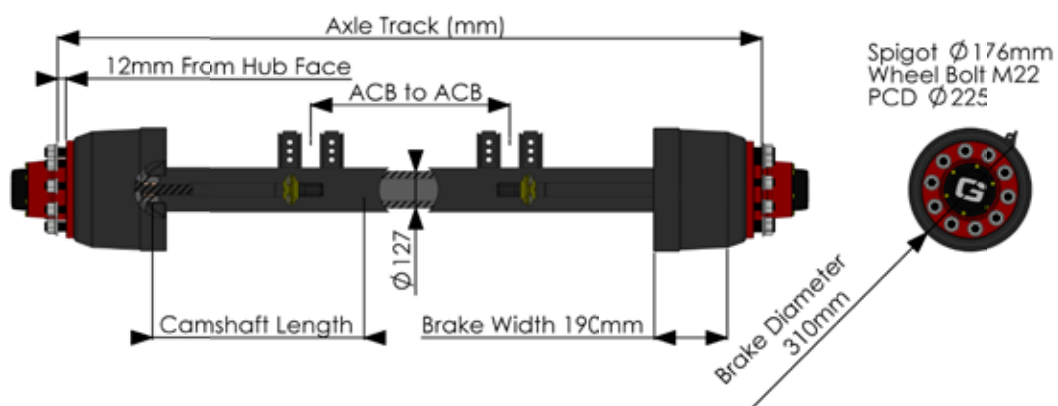


## 300 series



Part No	Brake Size	Beam Type	Track	Camshaft	ACB to ACB	Beam Capacity*	Brake Capacity*	Wheelbolt
<b>60300</b>	310x190	Ø 127mm	1820mm	519mm	388mm	11,000kg	11,000kg	MTT
<b>60319</b>	310x190	Ø 127mm	2400mm	610mm	786mm	11,000kg	11,000kg	MTT
<b>60326</b>	310x190	Ø 127mm	1950mm	610mm	337mm	11,000kg	11,000kg	MTT
<b>60330</b>	310x190	Ø 127mm	1920mm	610mm	306mm	11,000kg	11,000kg	MTT
<b>60342</b>	310x190	Ø 127mm	2185mm	519mm	753mm	11,000kg	11,000kg	MTT
<b>60354</b>	310x190	Ø 127mm	2390mm	610mm	776mm	11,000kg	11,000kg	MTT
<b>60364</b>	310x190	Ø 127mm	2000mm	610mm	386mm	11,000kg	11,000kg	MTT
<b>60397</b>	310x190	Ø 127mm	1850mm	610mm	236mm	11,000kg	11,000kg	MTT
<b>60398</b>	310x190	Ø 127mm	2470mm	610mm	856mm	11,000kg	11,000kg	MST
<b>60366</b>	310x190	Ø 127mm	2120mm	610mm	505mm	11,000kg	11,000kg	MTT

\* Values provided may vary depending on suspension overhang, speed, road conditions, offset wheels.

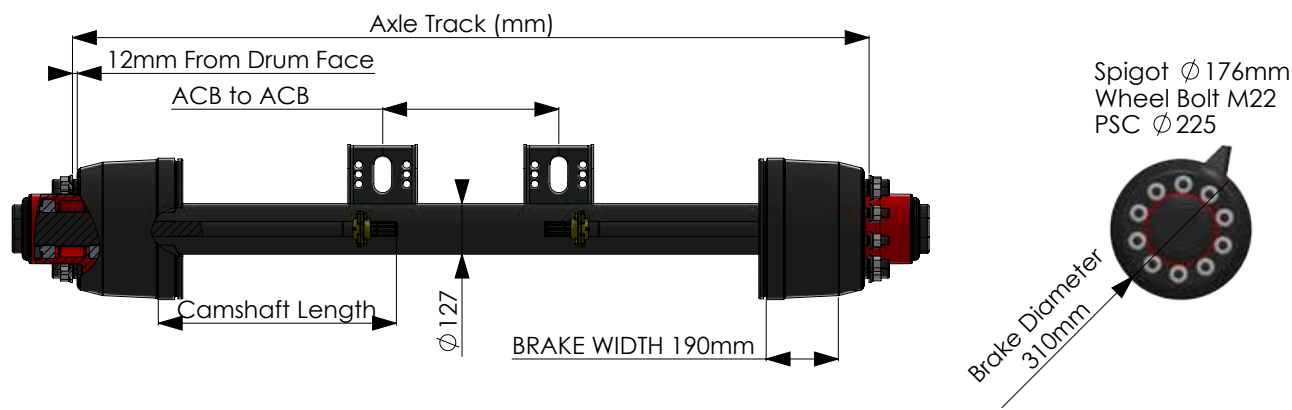


350 series



Part No	Brake Size	Beam Type	Track	Camshaft	ACB to ACB	Beam Capacity*	Brake Capacity*	Wheelbolt
69350	310x190	Ø 127mm	2000mm	610mm	433mm	11,000kg	11,000kg	MST
69351	310x190	Ø 127mm	2000mm	610mm	433mm	11,000kg	11,000kg	MTT

\* Values provided may vary depending on suspension overhang, speed, road conditions, offset wheels.

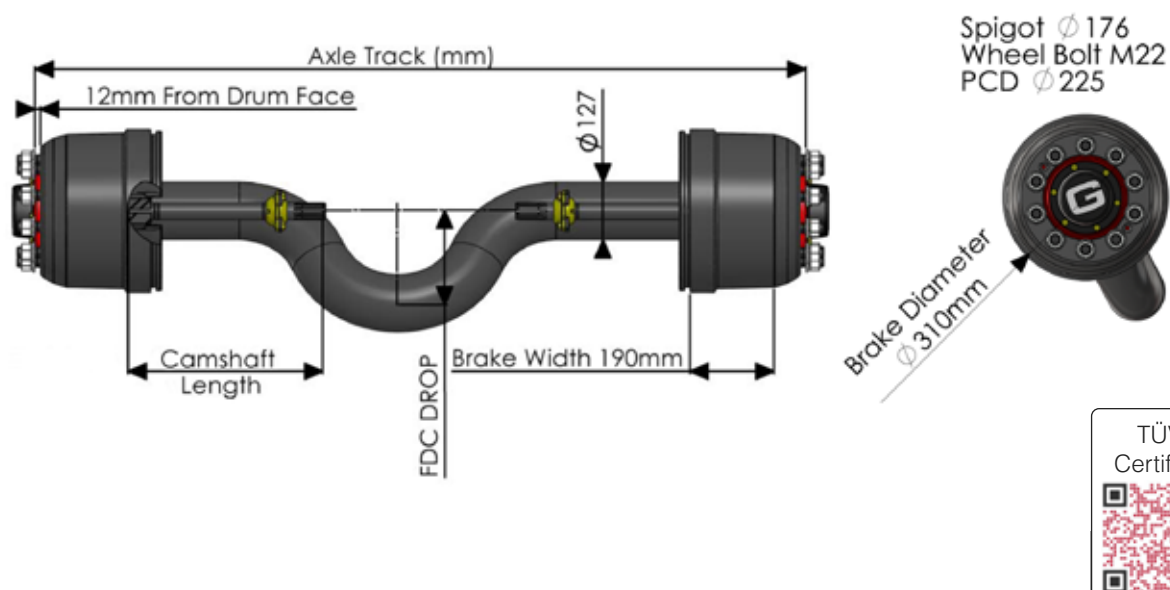


## 400 series



Part No	Brake Size	Beam Type	FDC drop	Track	Camshaft	ACB to ACB	Beam Capacity*	Brake Capacity*	Wheelbolt
<b>60405</b>	310x190	Ø 127mm	Straight	2286mm	430mm	1079mm	7,500kg	11,000kg	MST
<b>60413</b>	310x190	Ø 127mm	205mm	1820mm	430mm	613mm	7,500kg	11,000kg	MST
<b>60414</b>	310x190	Ø 127mm	205mm	2286mm	212mm	1515mm	7,500kg	11,000kg	MST
<b>60420</b>	310x190	Ø 127mm	205mm	2286mm	212mm	1515mm	7,500kg	11,000kg	MST
<b>60431</b>	310x190	Ø 127mm	205mm	2180mm	212mm	1409mm	7,500kg	11,000kg	MST
<b>60432</b>	310x190	Ø 127mm	205mm	2286mm	212mm	1515mm	7,500kg	11,000kg	MST
<b>60434</b>	310x190	Ø 127mm	205mm	2408mm	212mm	1637mm	7,500kg	11,000kg	MST
<b>60418</b>	310x190	Ø 127mm	205mm	1700mm	430mm	493mm	7,500kg	11,000kg	MST
<b>60436</b>	310x190	Ø 127mm	205mm	1760mm	430mm	553mm	7,500kg	11,000kg	MST
<b>60442</b>	310x190	Ø 127mm	205mm	2148mm	212mm	1377mm	7,500kg	11,000kg	MST

\* Values provided may vary depending on suspension overhang, speed, road conditions, offset wheels.

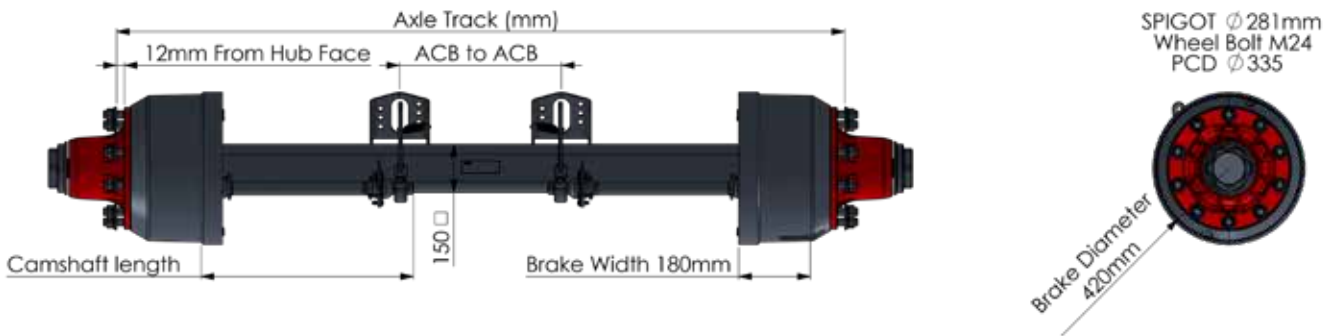


500B series (Heavy Duty)



Part No	Brake Size	Beam Type	Track	Camshaft	ACB to ACB	Beam Capacity*	Wheelbolt
69500	420x200	□ 150mm	1850mm	641mm	284mm	18,000kg	Twin M24
69501	420x200	□ 150mm	2250mm	725mm	505mm	18,000kg	Twin M24

\* Values provided may vary depending on suspension overhang, speed, road conditions, offset wheels.

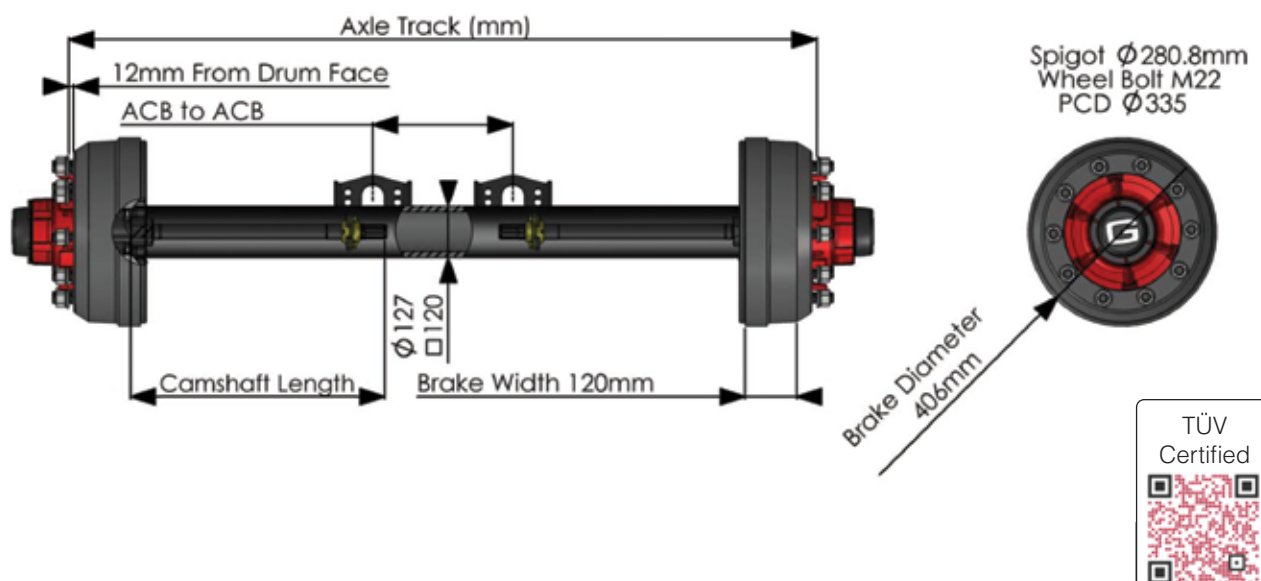


## 860 series

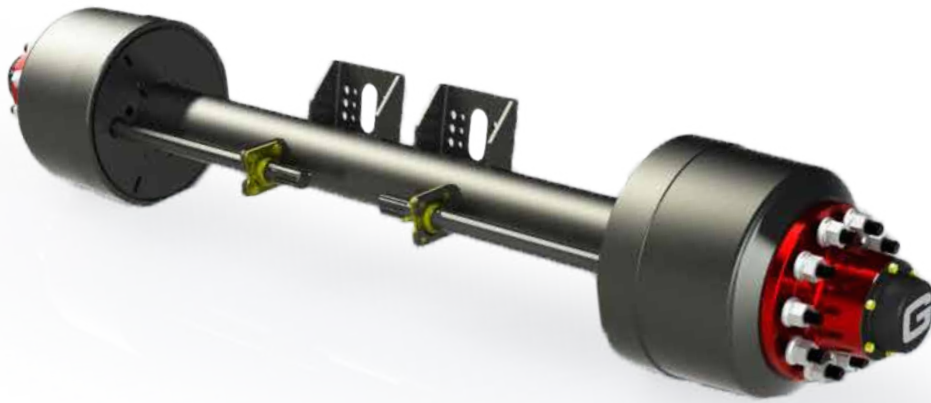


Part No	Brake Size	Beam Type	Track	Camshaft	ACB to ACB	Beam Capacity*	Brake Capacity*	Wheelbolt
<b>60860</b>	406x120	Ø 127mm	1820mm	618mm	345mm	10,500kg	10,000kg	MST
<b>60861</b>	406x120	Ø 127mm	1900mm	618mm	426mm	10,500kg	10,000kg	MST
<b>60862</b>	406x120	Ø 127mm	1950mm	618mm	476mm	10,500kg	10,000kg	MST
<b>60863</b>	406x120	□ 120mm	2000mm	618mm	520mm	10,500kg	10,000kg	MST
<b>60863</b>	406x120	Ø 127mm	2000mm	618mm	526mm	10,500kg	10,000kg	MST
<b>60864</b>	406x120	Ø 127mm	2100mm	618mm	626mm	10,500kg	10,000kg	MST
<b>60869</b>	406x120	□ 120mm	2300mm	680mm	565mm	10,500kg	10,000kg	DST
<b>60885</b>	406x120	□ 120mm	2350mm	618mm	870mm	10,500kg	10,000kg	DST
<b>60894</b>	406x120	Ø 127mm	2224mm	618mm	749mm	10,500kg	10,000kg	DST

\* Values provided may vary depending on suspension overhang, speed, road conditions, offset wheels.

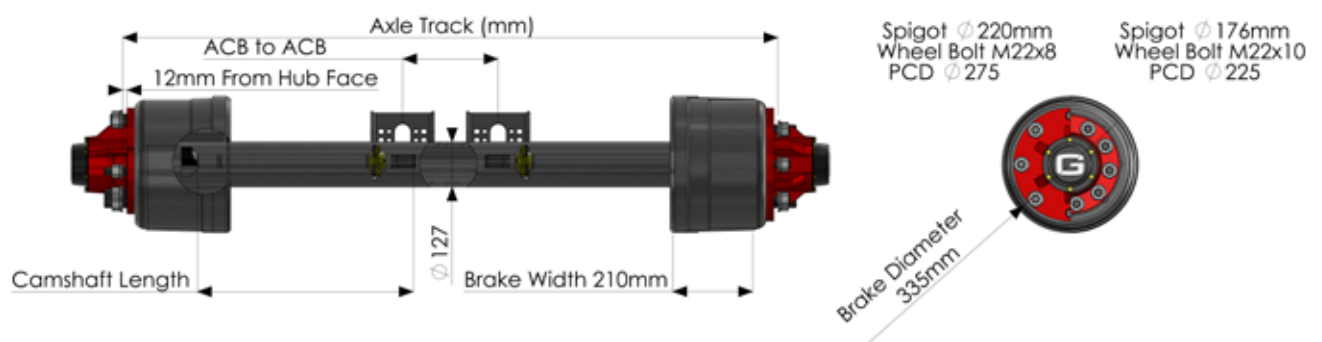


## 900 series



Part No	Brake Size	Beam Type	Track	Camshaft	ACB to ACB	Beam Capacity*	Brake Capacity*	Wheelbolt
<b>60900</b>	335x210	Ø 127mm	1850mm	610mm	266mm	11,000kg	11,000kg	MTT
<b>60909</b>	335x210	Ø 127mm	2097mm	519mm	403mm	11,000kg	11,000kg	MTT
<b>60908</b>	335x210	Ø 127mm	1950mm	610mm	366mm	11,000kg	11,000kg	MTT
<b>60911</b>	335x210	Ø 127mm	1880mm	610mm	296mm	11,000kg	11,000kg	MTT
<b>60916</b>	335x210	Ø 127mm	2000mm	610mm	416mm	11,000kg	11,000kg	MSE
<b>60914</b>	335x210	Ø 127mm	2000mm	610mm	416mm	11,000kg	11,000kg	MTE

\* Values provided may vary depending on suspension overhang, speed, road conditions, offset wheels.





## 950 series (Heavy Duty)

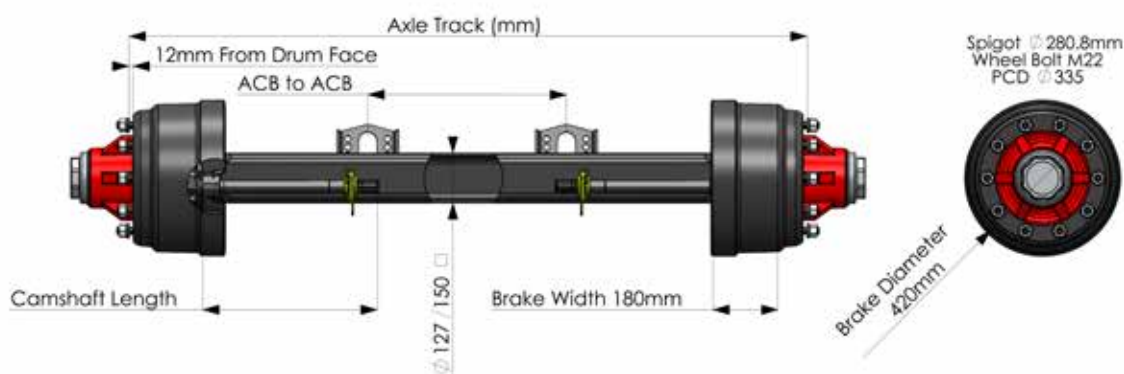


Part No	Brake Size	Beam Type	Track	Camshaft / SP	ACB to ACB**	Beam Capacity*	Brake Capacity*	Wheelbolt
<b>60957FD</b>	420x180	□ 150mm	1840mm	543mm / 37	390mm	13,000kg	11,000kg	DTT
<b>60961FD</b>	420x180	□ 150mm	2324mm	613mm / 37	734mm	13,000kg	11,000kg	DTT
<b>60965FD</b>	420x180	□ 150mm	2424mm	443mm / 37	1074mm	13,000kg	11,000kg	DTT
<b>60969F</b>	420x180	□ 150mm	2224mm	700mm / 37	460mm	13,000kg	11,000kg	MTT
<b>60974FD</b>	420x180	□ 150mm	2024mm	705mm / 10	250mm	13,000kg	11,000kg	DTT
<b>60976FD</b>	420x180	Ø 127mm	1880mm	524mm / 10	468mm	12,500kg	11,000kg	MST
<b>60977FD</b>	420x180	Ø 127mm	2024mm	685mm / 10	290mm	12,500kg	11,000kg	DTT
<b>60982F</b>	420x180	□ 150mm	2024mm	695mm / 10	226mm	13,000kg	11,000kg	MTT
<b>60983F</b>	420x180	□ 150mm	2174mm	695mm / 10	376mm	13,000kg	11,000kg	MTT
<b>60984F</b>	420x180	□ 150mm	2224mm	695mm / 10	426mm	13,000kg	11,000kg	MTT
<b>60991FD</b>	420x180	□ 150mm	2174mm	705mm / 10	400mm	13,000kg	11,000kg	DTT
<b>60992FD</b>	420x180	□ 150mm	2224mm	705mm / 10	450mm	13,000kg	11,000kg	DTT
<b>60993FD</b>	420x180	□ 150mm	2024mm	618mm / 10	424mm	13,000kg	11,000kg	DTT

\* Values provided may vary depending on suspension overhang, speed, road conditions, offset wheels.

\*\* All ACB components supplied loose.

SP - No. of Splines



# 980 series (Heavy Duty)



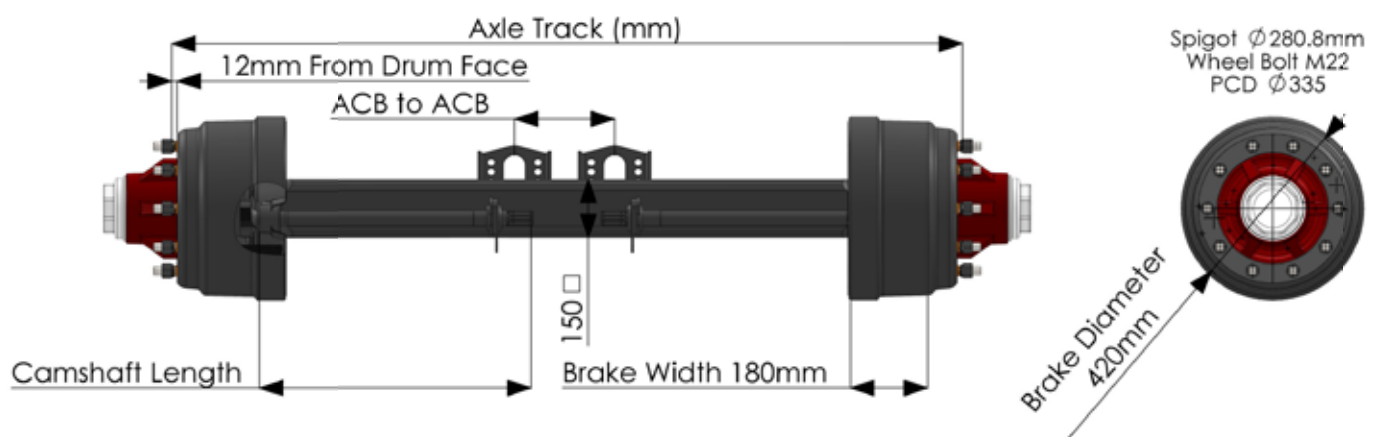
Part No	Brake Size	Beam Type	Track	Camshaft / SP	ACB to ACB*	Beam Capacity**	Brake Capacity	Wheelbolt
<b>60987FD</b>	420 x 180	□ 150mm	2100mm	705mm / 10	322mm	16,000kg	11,000kg	DTT
<b>60988FD</b>	420 x 180	□ 150mm	1840mm	543mm / 10	386mm	16,000kg	11,000kg	DTT
<b>60979FD</b>	420 x 180	□ 150mm	2024mm	705mm / 10	250mm	16,000kg	11,000kg	DTT

\* All ACB components supplied loose.

\*\* Increased beam capacity for Off Road use:

Example at common speed limit of 25kph, Max beam loading @ 450 overhang would be 19,000kg'.

For full specification please ref to online datasheet: <https://granningaxles.ie/420x180-980-series>



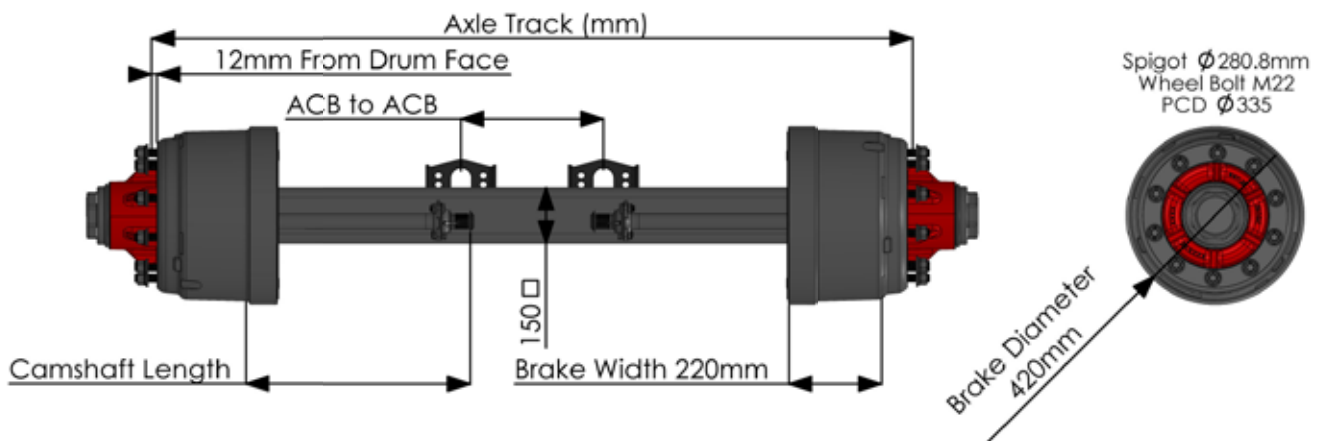
## 990 series



Part No	Brake Size	Beam Type	Track	Camshaft / SP	ACB to ACB*	Beam Capacity**	Brake Capacity	Wheelbolt
<b>60997FD</b>	420x220	□ 150mm	2024mm	618mm / 10	380mm	13,000kg	11,000kg	DTT

\* All ACB components supplied loose.

\*\* Increased beam capacity for Off Road use:



## T Range (Heavy Duty)



Brake Size	Beam Type	Track	Camshaft length	ACB to ACB*	Load Capacity	Wheelbolt
420x220	Ø 178mm	2300mm	641mm	408mm	32000Kg 10km/h	10 stud Single ISO



# 100 series

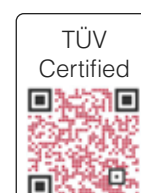
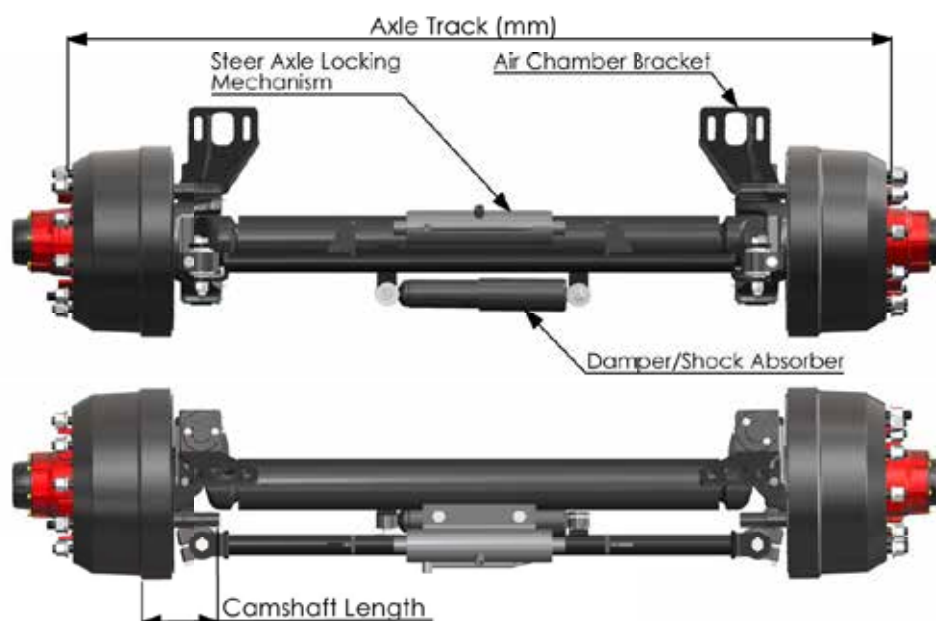


**Hydraulic Ram**

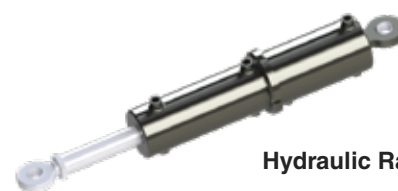
options available - see page 23.

Part No	Track	Beam Type	Camshaft	Steering Function	Locking	Ram	B.Chamber Position	Wheelbolt
<b>60117S1</b>	1820mm	Ø 127mm	189mm	Self Steer	Hydraulic	37179	Under Axle	MST
<b>60128S2</b>	2150mm	Ø 127mm	212mm	Self Steer	Hydraulic	37179	Over Axle	MST
<b>60145S1</b>	1920mm	Ø 127mm	189mm	Self Steer	Hydraulic	37179	Under Axle	MST
<b>60183S1</b>	2045mm	Ø 127mm	189mm	Self Steer	Hydraulic	37179	Over Axle	MST
<b>60183S2</b>	2045mm	Ø 127mm	189mm	Self Steer	Hydraulic	37179	Over Axle	MST
<b>60183S4</b>	2045mm	Ø 127mm	189mm	Self Steer	Air	-	Over Axle	MST
<b>60183S5</b>	2045mm	Ø 127mm	189mm	Self Steer	Air	-	Under Axle	MST
<b>60183S9</b>	2045mm	Ø 127mm	189mm	Self Steer	Hydraulic	37179	Under Axle	MST
<b>60183S14</b>	2045mm	Ø 127mm	212mm	Self Steer	Hydraulic	37179	Over Axle	MST
<b>60183S16</b>	2045mm	Ø 127mm	212mm	Self Steer	Hydraulic	37179	Under Axle	MST

S at the end of the axle code signifies it is a steer axle. The last digits indicates the exact steer axle type in that axle series.



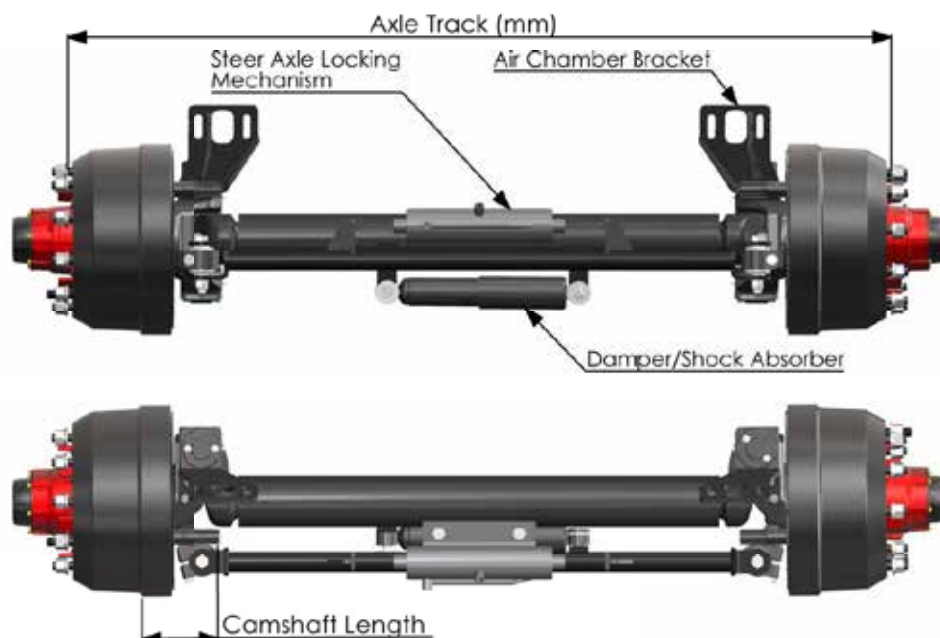
# 100 series (Passive Steer)



**Hydraulic Ram**  
options available - see page 23.

Part No	Track	Beam Type	Camshaft	Steering Function	B.Chamber Position	Wheelbolt	Suspension Setup
<b>60183S11</b>	2045mm	Ø 127mm	189mm	Forced	Over Axle	DST	Overslung
<b>60183S26</b>	2045mm	Ø 127mm	189mm	Forced	Over Axle	MST	Overslung
<b>60183S29</b>	2045mm	Ø 127mm	189mm	Forced	Over Axle	MST	Underslung
<b>60183S31</b>	2045mm	Ø 127mm	250mm	Forced	Over Axle	DST	Underslung
<b>60183S39</b>	2045mm	Ø 127mm	250mm	Forced	Over Axle	MST	Underslung

S at the end of the axle code signifies it is a steer axle. The last digits indicates the exact steer axle type in that axle series.





# 100 series (Forced or Self Steer)

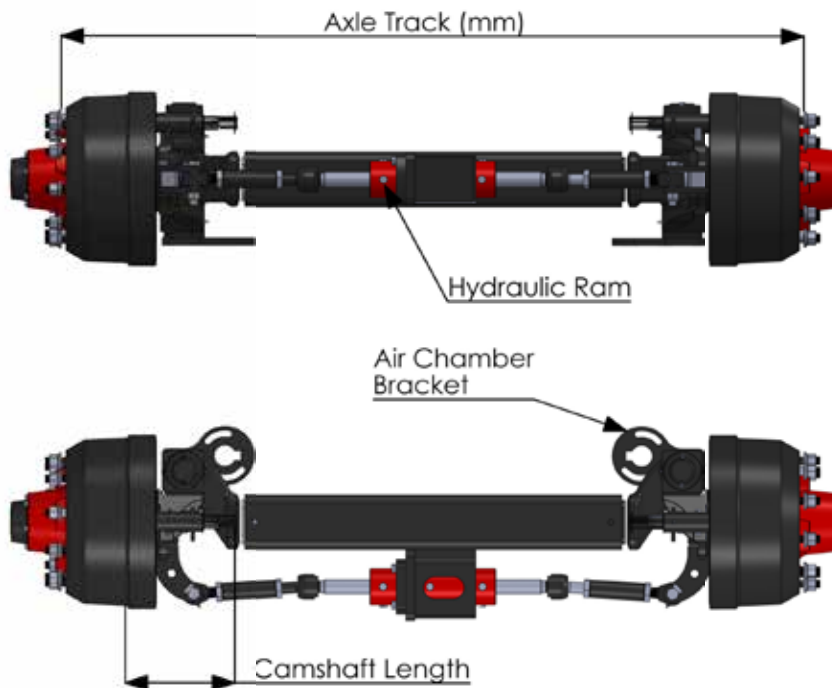


**Hydraulic Ram**

options available - see page 23.

Part No	Track	Beam Type	Camshaft	Steering Function	Ram	Brake Chamber Position	Wheelbolt	Suspension Setup
<b>69104AS2</b>	1980mm	Ø 127mm	189mm	Forced	37253	Over Axle	MST	Overslung & Underslung
<b>69101AS44</b>	2045mm	Ø 127mm	189mm	Forced	37253	Over Axle	MST	
<b>69101AS45</b>	2045mm	Ø 127mm	189mm	Self-Steer	37293	Over Axle	MST	
<b>69111AS1</b>	2024mm	□ 150mm	289mm	Forced	37253	Below Axle	MST	
<b>69111AS2</b>	2024mm	□ 150mm	289mm	Self-Steer	37293	Below Axle	MST	

S at the end of the axle code signifies it is a steer axle. The last digits indicates the exact steer axle type in that axle series.



## 300 series

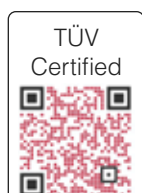
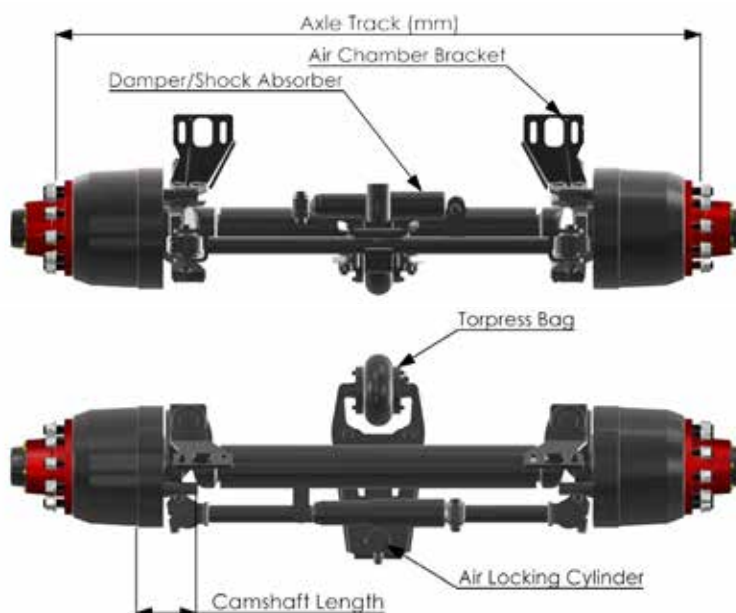


**Hydraulic Ram**

options available - see page 23.

Part No	Track	Beam Type	Camshaft	Steering Function	Locking	Ram	B.Chamber Position	Wheelbolt
<b>60325S1</b>	1820mm	Ø 127mm	175mm	Self Steer	Air	-	Over Axle	MTT
<b>60325S2</b>	1820mm	Ø 127mm	175mm	Self Steer	Hydraulic	37179	Over Axle	MTT
<b>60326S2</b>	1950mm	Ø 127mm	175mm	Self Steer	Air	-	Over Axle	MTT
<b>60330S1</b>	1920mm	Ø 127mm	175mm	Self Steer	Hydraulic	37179	Over Axle	MTT
<b>60330S2</b>	1920mm	Ø 127mm	175mm	Self Steer	Air	-	Over Axle	MTT
<b>60364S1</b>	2000mm	Ø 127mm	175mm	Self Steer	Air	-	Over Axle	MTT
<b>60364S2</b>	2000mm	Ø 127mm	175mm	Self Steer	Hydraulic	37179	Over Axle	MTT
<b>60366S1</b>	2120mm	Ø 127mm	175mm	Self Steer	Air	-	Under Axle	MTT
<b>60397S1</b>	1850mm	Ø 127mm	175mm	Self Steer	Air	-	Over Axle	MTT
<b>60397S2</b>	1850mm	Ø 127mm	175mm	Self Steer	Hydraulic	37179	Under Axle	MTT

S at the end of the axle code signifies it is a steer axle. The last digits indicates the exact steer axle type in that axle series.



## 300 series (Forced or Self Steer)

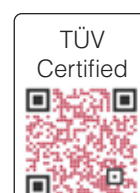
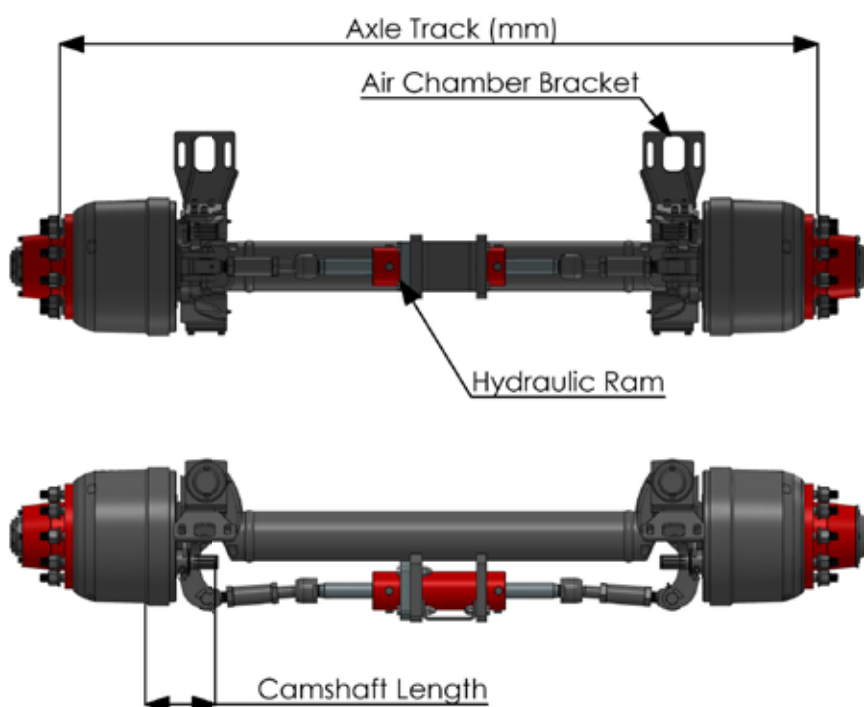


**Hydraulic Ram**

options available - see page 23.

Part No	Track	Beam Type	Camshaft	Steering Function	Ram	Brake Chamber Position	Wheelbolt	Suspension Setup
<b>69303AS4</b>	1950mm	Ø 127mm	175mm	Forced	37253	Over Axle	MTT	Overslung & Underslung
<b>69303AS5</b>	1950mm	Ø 127mm	175mm	Self-Steer	37293	Over Axle	MTT	

S at the end of the axle code signifies it is a steer axle. The last digits indicates the exact steer axle type in that axle series.



## 860 series

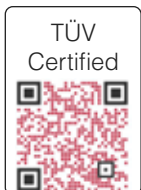
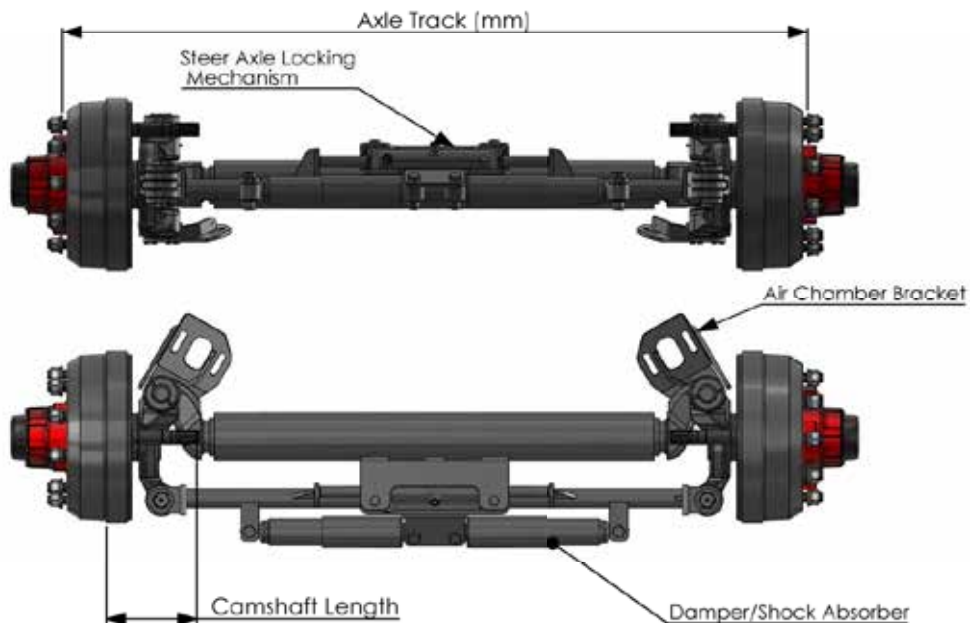


**Hydraulic Ram**

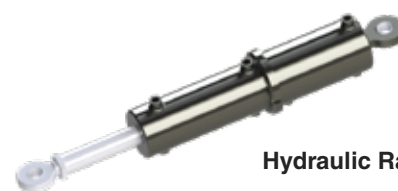
options available - see page 23.

Part No	Track	Beam Type	Camshaft	Steering Function	Locking	Ram	B.Chamber Position	Wheelbolt
<b>60863AS1</b>	2000mm	Ø 127mm	250mm	Self Steer	Hydraulic	37046	Under axle	MST
<b>60863AS2</b>	2000mm	Ø 127mm	250mm	Self Steer	Hydraulic	37046	Under axle	MST
<b>60863AS3</b>	2000mm	Ø 127mm	212mm	Self Steer	Hydraulic	37046	Under axle	MST
<b>60863AS4</b>	2000mm	Ø 127mm	250mm	Self Steer	Hydraulic	37046	Under axle	DST
<b>60869S1</b>	2250mm	Ø 127mm	250mm	Self Steer	Hydraulic	37046	Under axle	MST

S at the end of the axle code signifies it is a steer axle. The last digits indicates the exact steer axle type in that axle series.



## 980 series (Heavy Duty)

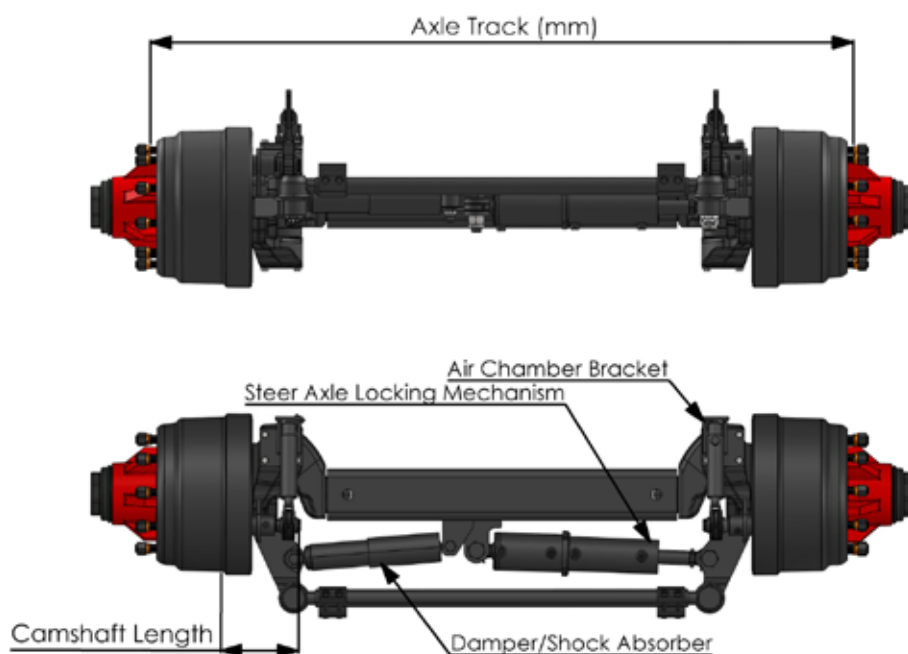


**Hydraulic Ram**

options available - see page 23.

Part No	Track	Beam Type	Camshaft	Steering Function	Locking	Ram	B.Chamber Position	Wheelbolt
<b>60979AS1</b>	2024mm	□ 150mm	212mm	Forced / Self Steer	Hydraulic	37178	Over axle	DST
<b>60987AS1</b>	2100mm	□ 150mm	212mm	Forced / Self Steer	Hydraulic	37178	Over axle	DST
<b>60989AS1</b>	2040mm	□ 150mm	212mm	Forced / Self Steer	Hydraulic	37178	Over axle	DST

S at the end of the axle code signifies it is a steer axle. The last digits indicates the exact steer axle type in that axle series.





## Steer Axle Hydraulic Ram

**37179** – Self steer hydraulic ram. Separate from track rod. Used to lock and unlock steer axle.



**37253** – Forced steer hydraulic ram. Hydraulic ram integrated with track rod.



**37293** – Self steer hydraulic ram. Hydraulic ram integrated with track rod. Used to lock and unlock steer axle.



**37178** – Self steer hydraulic ram that can be piped for forced steer. Separate from track rod. 16T steer.



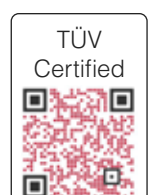


## 6000 series



Part No	Beam Type	FDC / Straight	Track	Beam Capacity*	Brake Capacity*	Wheelbolt
<b>606101</b>	Ø 127mm	Straight	1820mm	11,000kg	10,000kg	MTT
<b>606151</b>	Ø 127mm	Straight	2045mm	11,000kg	10,000kg	MST
<b>606201</b>	Ø 127mm	Straight	1820mm	11,000kg	10,000kg	MTE
<b>606321</b>	Ø 127mm	Straight	2045mm	11,000kg	10,000kg	MSE
<b>606741</b>	Ø 127mm	Straight	2184mm	11,000kg	10,000kg	MSE
<b>606791</b>	Ø 127mm	FDC 230mm drop	2045mm	7,500kg	10,000kg	MSE
<b>606881</b>	Ø 127mm	FDC 230mm drop	2170mm	7,500kg	10,000kg	MSE
<b>606891</b>	Ø 127mm	FDC 230mm drop	2094mm	7,500kg	10,000kg	MSE

\* Values provided may vary depending on suspension overhang, speed, road conditions, offset wheels.

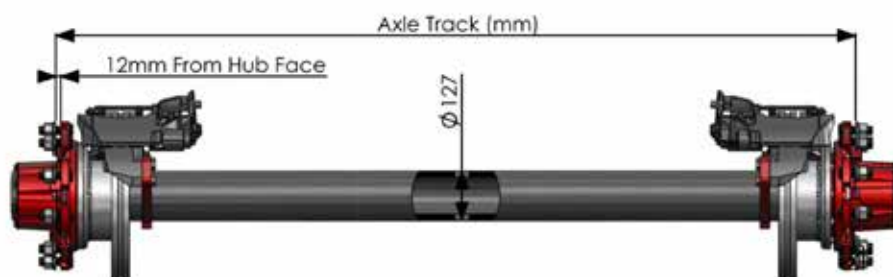


# 7000 series



Part No	Beam Type	FDC / Straight	Track	Beam Capacity*	Brake Capacity*	Wheelbolt
<b>607001</b>	Ø 127mm	Straight	2286mm	7,500kg	11,500kg	MST
<b>607181</b>	Ø 127mm	FDC 230mm drop	1770mm	7,500kg	11,500kg	MST
<b>607231</b>	Ø 127mm	Straight	1850mm	11,000kg	11,500kg	MTT
<b>607291</b>	Ø 127mm	Straight	1840mm	11,000kg	11,500kg	MTT
<b>607311</b>	Ø 127mm	Straight	2174mm	11,000kg	11,500kg	MST
<b>607331</b>	Ø 127mm	FDC 230mm drop	2286mm	7,500kg	11,500kg	MST
<b>607441</b>	Ø 127mm	Straight	1820mm	11,000kg	11,500kg	MTT
<b>607451</b>	Ø 127mm	Straight	2045mm	11,000kg	11,500kg	MST
<b>607481</b>	Ø 127mm	Straight	1820mm	11,000kg	11,500kg	MTT

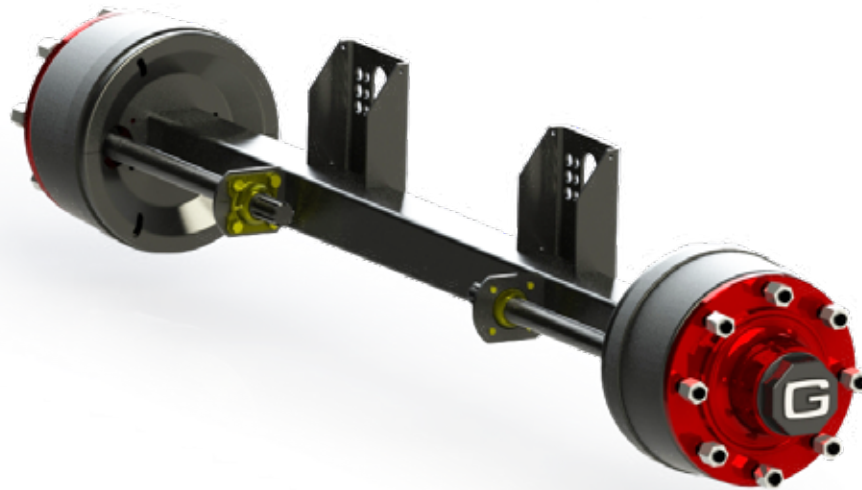
\* Values provided may vary depending on suspension overhang, speed, road conditions, offset wheels.



Spigot Ø 280.8  
Wheel Bolt M22  
PCD Ø 335

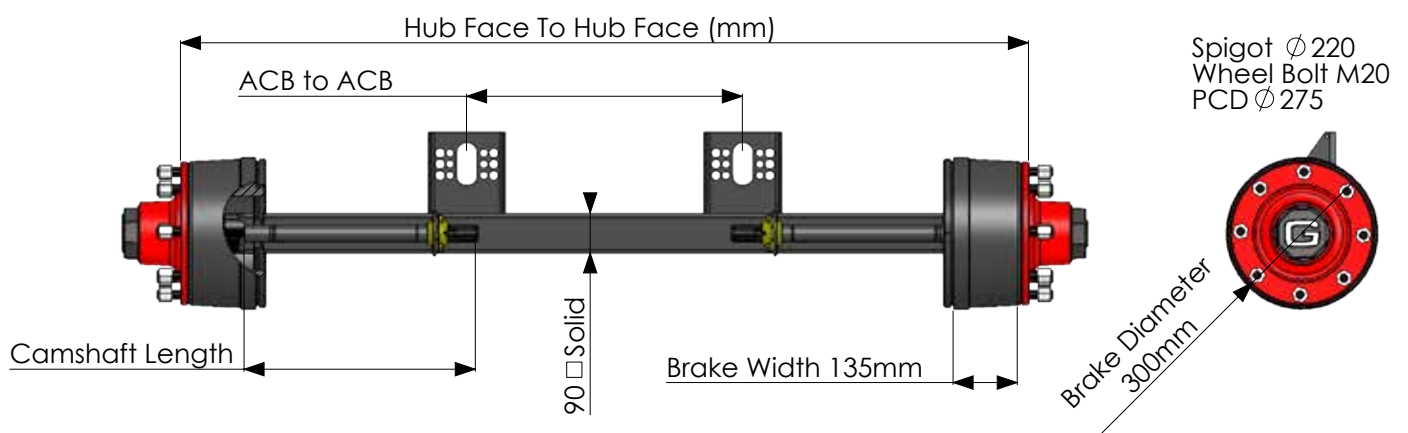


## 750 series



Part No	Brake Size	Track	Beam Type	Camshaft	ACB to ACB	Beam Capacity*	Brake Capacity*	Wheelbolt
<b>60752</b>	300x135	2015mm	■ 90mm	519mm	738mm	8,000kg	8,000kg	DTE
<b>60755</b>	300x135	1894mm	■ 90mm	610mm	435mm	8,000kg	8,000kg	DTE
<b>60756</b>	300x135	1794mm	■ 90mm	610mm	335mm	8,000kg	8,000kg	DTE

\* Values provided may vary depending on suspension overhang, speed, road conditions, offset wheels.



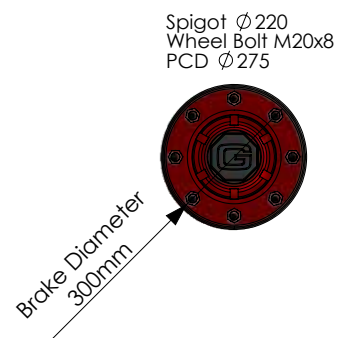
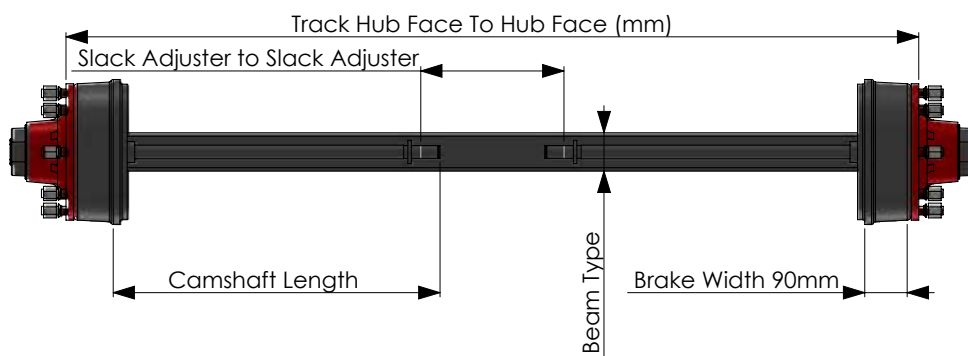
## 97000 series



Part No	Brake Size	Track	Beam Type	Camshaft	Slack to Slack	Wheelbolt
<b>97000</b>	300x90	2000mm	■ 90mm	720mm	379mm	8 x M20
<b>97001</b>	300x90	1900mm	■ 90mm	560mm	586mm	8 x M20
<b>97002</b>	300x90	1800mm	■ 90mm	507mm	592mm	8 x M20
<b>97004</b>	300x90	1850mm	■ 90mm	560mm	550mm	8 x M20
<b>97005</b>	300x90	1850mm	■ 90mm	748mm	175mm	8 x M20
<b>97006</b>	300x90	1900mm	■ 90mm	560mm	586mm	8 x M20

\* Values provided may vary depending on suspension overhang, speed, road conditions, offset wheels.

Max Beam Capacity									Brake Capacity		
25 km/h			40 km/h			60 km/h			25 km/h	40 km/h	EEC
									8,000kg	5,400kg	5,400kg
9,000kg	10,800kg	8,000kg	8,000kg	9,000kg	7,500kg	7,500kg	8,500kg	7,000kg	361-133-12	361-129-12	361-126-12



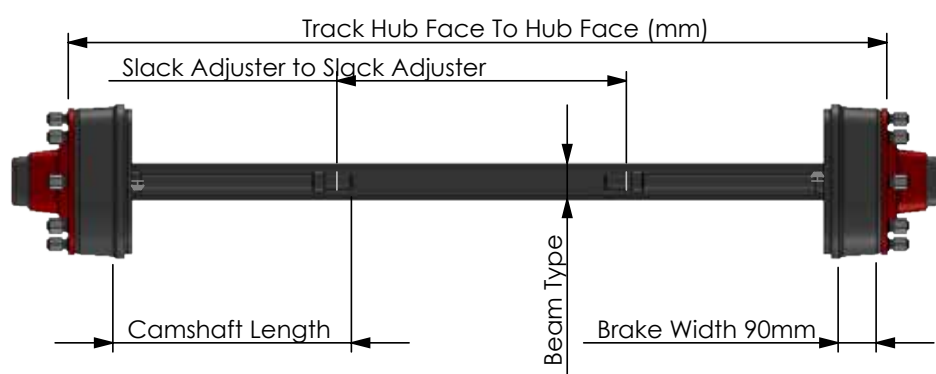
## 97050 series



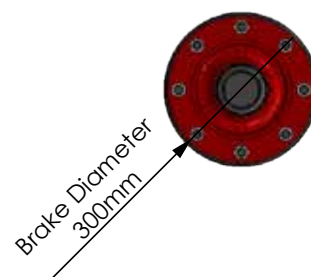
Part No	Brake Size	Track	Beam Type	Camshaft	Slack to Slack	Wheelbolt
<b>97050</b>	300x90	1800mm	■ 80mm	507mm	605mm	8 x M20
<b>97051</b>	300x90	1850mm	■ 80mm	560mm	455mm	8 x M18
<b>97052</b>	300x90	1700mm	■ 80mm	507mm	505mm	8 x M20

\* Values provided may vary depending on suspension overhang, speed, road conditions, offset wheels.

Max Beam Capacity									Brake Capacity		
25 km/h			40 km/h			60 km/h			25 km/h	40 km/h	EEC
									8,000kg	5,400kg	5,400kg
8,000kg	9,000kg	7,000kg	7,000kg	8,000kg	6,500kg	6,500kg	7,500kg	6,000kg	361-133-12	361-129-12	361-126-12



Spigot  $\varnothing 220$   
Wheel Bolt M20/M18x8  
PCD  $\varnothing 275$



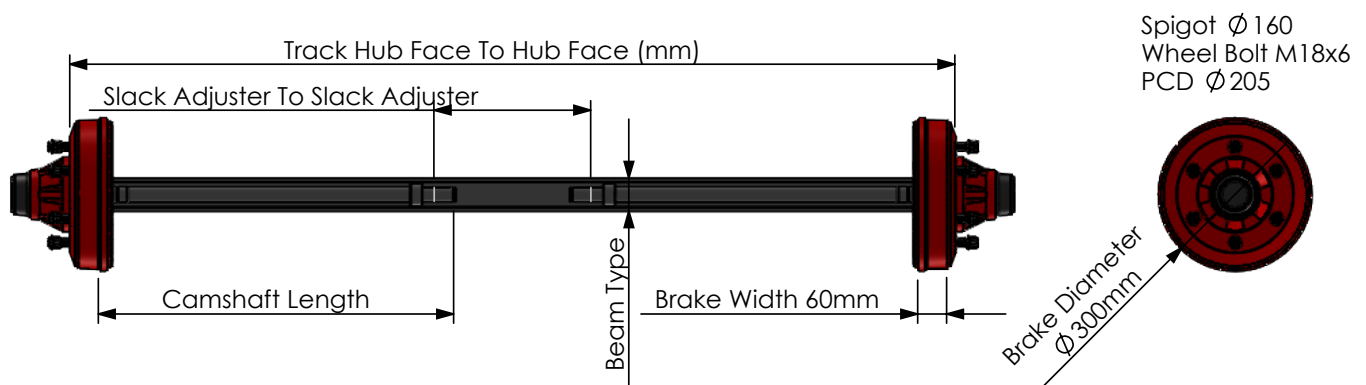
## 97 100 series



Part No	Brake Size	Track	Beam Type	Camshaft	Slack to Slack	Wheelbolt
<b>97100</b>	300x60	1900mm	■ 70mm	743mm	289mm	6 x M18
<b>97101</b>	300x60	1800mm	■ 70mm	743mm	189mm	6 x M18

\* Values provided may vary depending on suspension overhang, speed, road conditions, offset wheels.

Max Beam Capacity									Brake Capacity		
25 km/h			40 km/h			60 km/h			25 km/h	40 km/h	EEC
									6,000kg	3,000kg	3,000kg
7,000kg	8,500kg	6,500kg	6,500kg	7,500kg	6,000kg	6,000kg	7,000kg	5,000kg	361-132-09	361-128-12	361-124-12





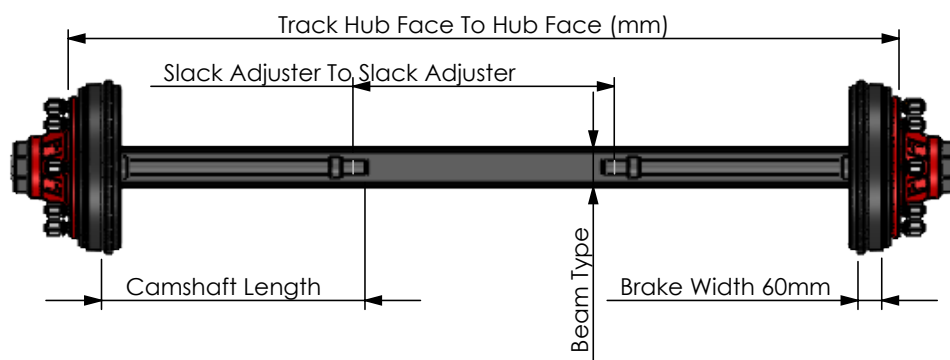
## 97200 series



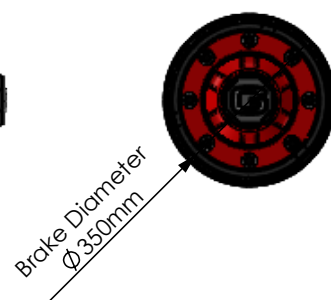
Part No	Brake Size	Track	Beam Type	Camshaft	Slack to Slack	Wheelbolt
<b>97200</b>	350x60	1900mm	■ 90mm	595mm	540mm	8 x M20
<b>97201</b>	350x60	1800mm	■ 90mm	545mm	540mm	8 x M20

\* Values provided may vary depending on suspension overhang, speed, road conditions, offset wheels.

Max Beam Capacity									Brake Capacity		
25 km/h			40 km/h			60 km/h			25 km/h	40 km/h	EEC
									7,000kg	N/A	5,400kg
11,000kg	12,500kg	10,000kg	10,000kg	11,500kg	9,500kg	9,500kg	10,500kg	8,500kg	361-134-12	N/A	361-126-12



Spigot Ø220  
Wheel Bolt M20x8  
PCD Ø275












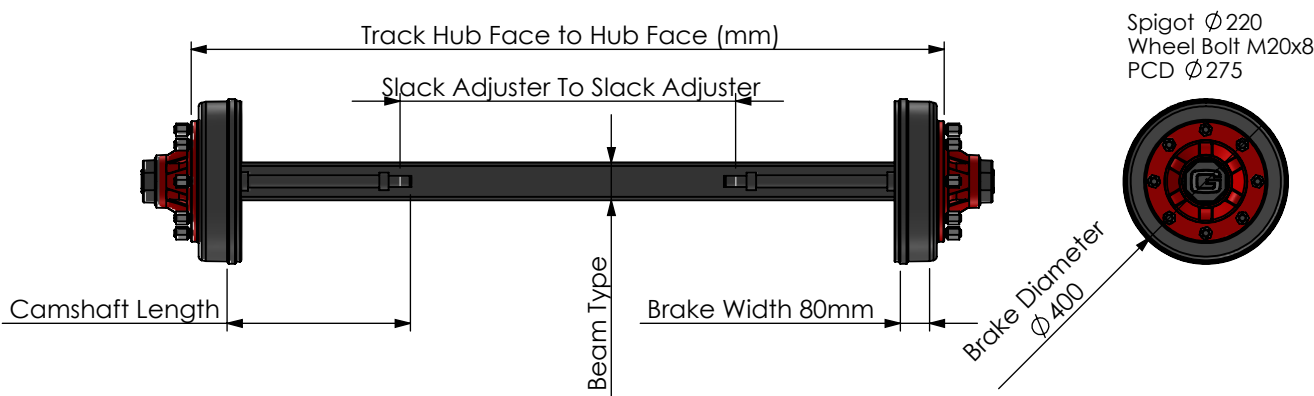
97300 series



Part No	Brake Size	Track	Beam Type	Camshaft	Slack to Slack	Wheelbolt
97300	400x80	2000mm	■ 100mm	477mm	882mm	8 x M20
97301	400x80	1900mm	■ 100mm	477mm	782mm	8 x M20

\* Values provided may vary depending on suspension overhang, speed, road conditions, offset wheels.

Max Beam Capacity									Brake Capacity		
25 km/h			40 km/h			60 km/h			25 km/h	40 km/h	EEC
									13,000kg	7,000kg	7,000kg
12,000kg	13,000kg	11,000kg	11,000kg	12,500kg	10,500kg	10,500kg	11,500kg	9,500kg	361-135-09	361-131-12	361-127-12







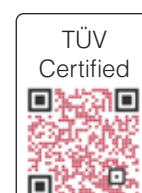
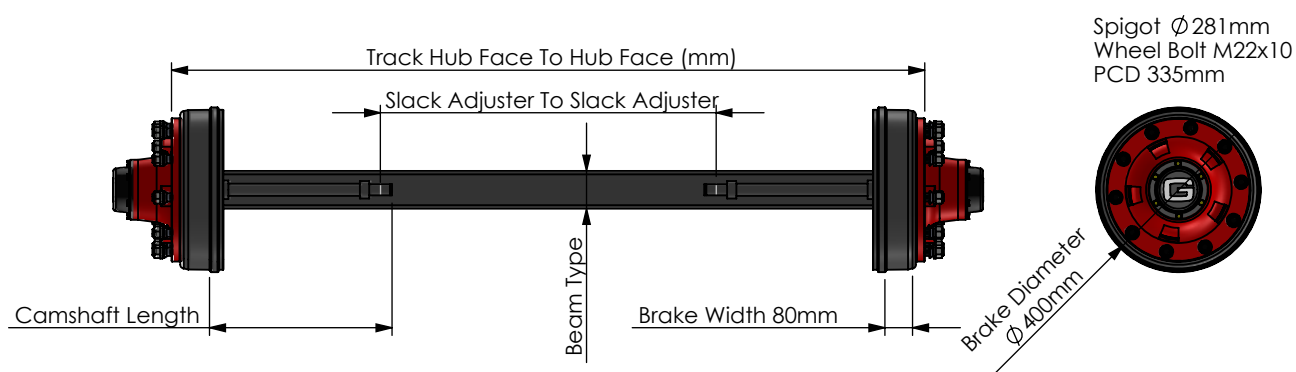
## 97400 series



Part No	Brake Size	Track	Beam Type	Camshaft / SP	Slack to Slack	Wheelbolt
<b>97400</b>	400x80	2000mm	■ 100mm	455mm / 38	911mm	10 x M22
<b>97401</b>	400x80	1900mm	■ 100mm	455mm / 38	811mm	10 x M22
<b>97450</b>	400x80	1900mm	■ 100mm	560mm / 38	604mm	10 x M22

\* Values provided may vary depending on suspension overhang, speed, road conditions, offset wheels.  
SP - No. of Splines

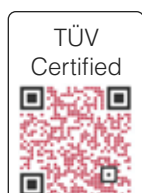
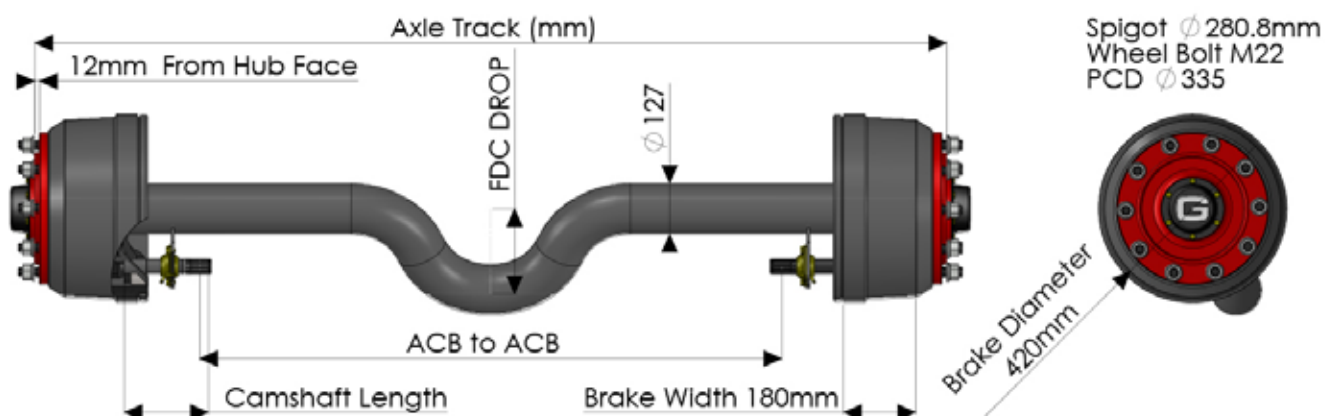
Max Beam Capacity									Brake Capacity		
25 km/h			40 km/h			60 km/h			25 km/h	40 km/h	EEC
									13,000kg	7,000kg	7,000kg
13,500kg	14,500kg	12,000kg	13,000kg	14,000kg	11,500kg	12,000kg	13,000kg	11,000kg	361-135-09	361-131-12	361-127-12



## 200 series FDC Axles (Forged Drop Centre)



Part No	Brake Size	Beam Type	FDC / Straight	Track	Camshaft	Beam Capacity*	Brake Capacity*	Wheelbolt
<b>60233</b>	420x180	Ø 127mm	FDC 230mm drop	2286mm	212mm	7,500kg	11,000kg	MST
<b>60228</b>	420x180	Ø 127mm	FDC 230mm drop	1700mm	457mm	7,500kg	11,000kg	MST
<b>60242</b>	420x180	Ø 127mm	FDC 230mm drop	1640mm	430mm	7,500kg	11,000kg	MST

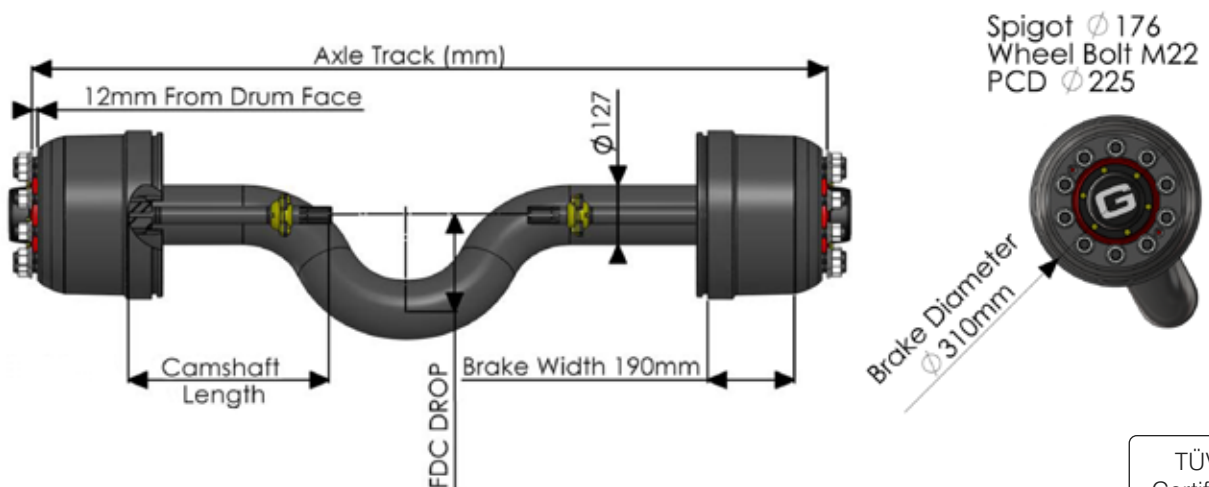


## 400 series FDC Axles (Forged Drop Centre)



Part No	Brake Size	Beam Type	FDC drop	Track	Camshaft	ACB to ACB	Beam Capacity*	Brake Capacity*	Wheelbolt
<b>60413</b>	310x190	Ø 127mm	205mm	1820mm	430mm	613mm	7,500kg	11,000kg	MST
<b>60414</b>	310x190	Ø 127mm	205mm	2286mm	212mm	1515mm	7,500kg	11,000kg	MST
<b>60420</b>	310x190	Ø 127mm	205mm	2286mm	212mm	1515mm	7,500kg	11,000kg	MST
<b>60431</b>	310x190	Ø 127mm	205mm	2180mm	212mm	1409mm	7,500kg	11,000kg	MST
<b>60432</b>	310x190	Ø 127mm	205mm	2286mm	212mm	1515mm	7,500kg	11,000kg	MST
<b>60434</b>	310x190	Ø 127mm	205mm	2408mm	212mm	1637mm	7,500kg	11,000kg	MST
<b>60418</b>	310x190	Ø 127mm	205mm	1700mm	430mm	493mm	7,500kg	11,000kg	MST
<b>60436</b>	310x190	Ø 127mm	205mm	1760mm	430mm	553mm	7,500kg	11,000kg	MST
<b>60442</b>	310x190	Ø 127mm	205mm	2148mm	212mm	1377mm	7,500kg	11,000kg	MST

\* Values provided may vary depending on suspension overhang, speed, road conditions, offset wheels.

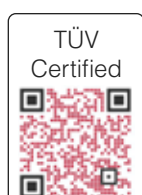
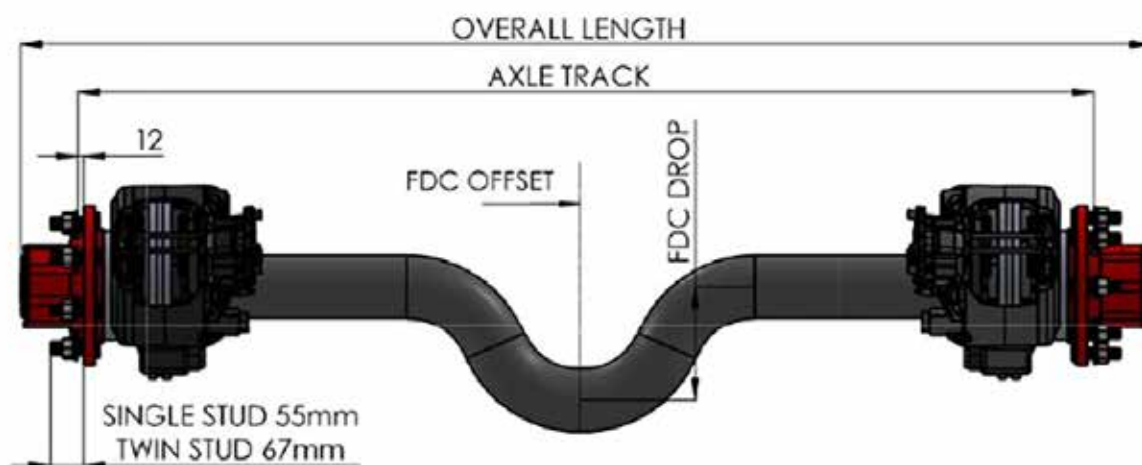


## 6000 series FDC Axles (Forged Drop Centre)



Part No	Track	FDC / Straight	Track	Beam Capacity*	Brake Capacity*	Wheelbolt
<b>606791</b>	2045mm	230mm drop	2045mm	7,500kg	10,000kg	MSE
<b>606881</b>	2170mm	230mm drop	2170mm	7,500kg	10,000kg	MSE
<b>606891</b>	2094mm	230mm drop	2094mm	7,500kg	10,000kg	MSE

\* Values provided may vary depending on suspension overhang, speed, road conditions, offset wheels.



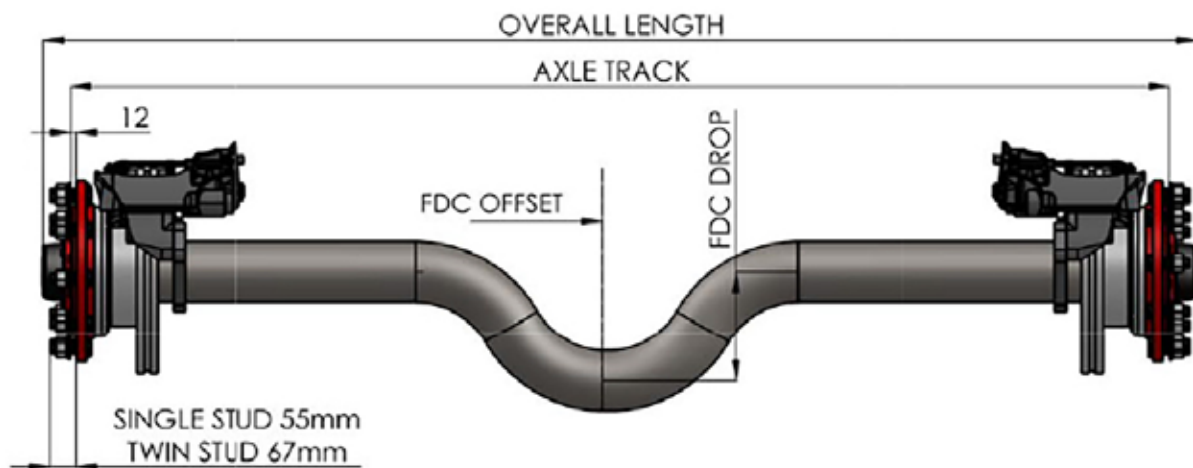


## 7000 series FDC Axles (Forged Drop Centre)

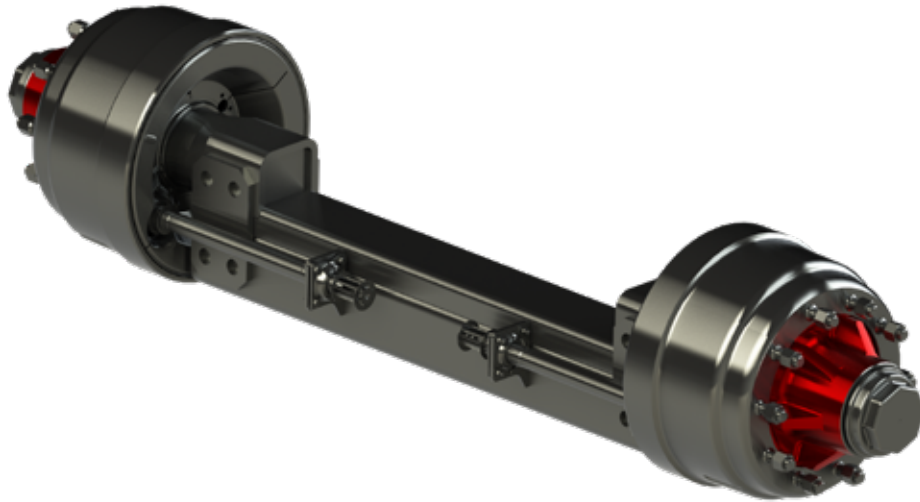


Part No	Beam Type	FDC Drop	Track	Bearing	Beam Capacity*	Brake Capacity*	Wheelbolt
<b>607081</b>	Ø 127mm	230mm	1770mm	Inner / Outer	7,500kg	11,500kg	MST
<b>607301</b>	Ø 127mm	230mm	2286mm	Inner / Outer	7,500kg	11,500kg	MST
<b>607331</b>	Ø 127mm	230mm	2286mm	Inner / Outer	7,500kg	11,500kg	MST

\* Values provided may vary depending on suspension overhang, speed, road conditions, offset wheels.

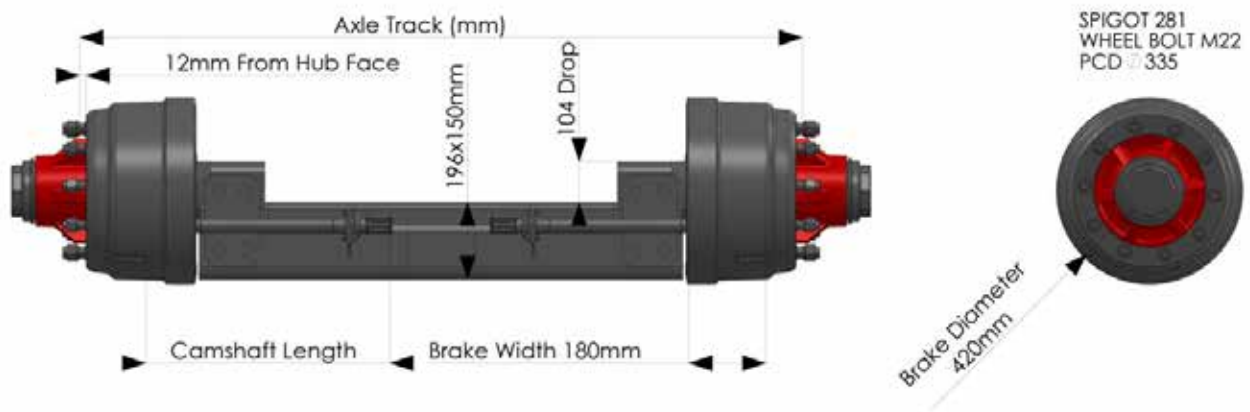


## 260 series Full Drop Axles

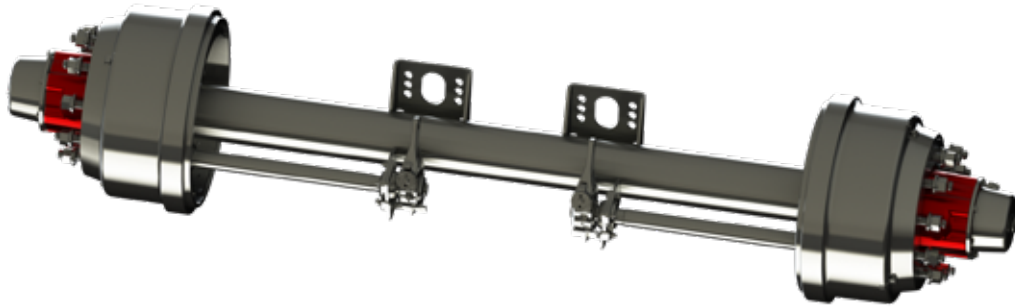


Part No	Brake Size	Beam Type	Track	Camshaft	ACB to ACB	Beam Capacity*	Wheelbolt	Axle Drop	ACB Position
<b>60260FD</b>	420x180	□ 150mm	1830mm	558mm	350mm	14,000kg	DTT	104mm	Below Axle
<b>60261FD</b>	420x180	□ 150mm	2000mm	558mm	520mm	14,000kg	DTT	104mm	Below Axle
<b>60263FD</b>	420x180	□ 150mm	1830mm	218mm	1200mm	14,000kg	DTT	150mm	Above Axle

\* Values provided may vary depending on suspension overhang, speed, road conditions, offset wheels.



## Oil Filled American Axles



Part No	Brake Size	Beam Type	Track	Camshaft	ACB to ACB	Beam Capacity*	Wheelbolt
<b>60475F</b>	420x180	Ø 127mm	1980mm	604mm	408mm	11,500kg	MTT

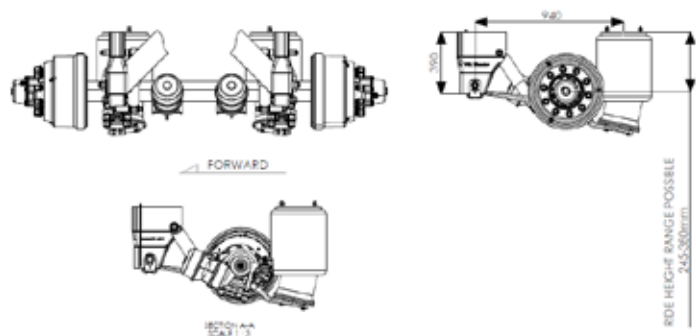
\* Values provided may vary depending on suspension overhang, speed, road conditions, offset wheels.

### Main Features

- The hub is oiled filled. This immerses the bearing in oil giving optimum lubrication. Oil filled hubs are also better suited for areas experiencing low temperatures.
- The axle uses a straight spindle with parallel bearings.
- The axle can be supplied with standard American automatic slack adjusters
- These axles are fitted with American hub set up of 10 stud 285.75 PCD and spigot diameter 221mm.
- The axles can also be supplied fitted with air suspension or mechanical suspension.



*Slack Adjuster*



*Oil Filled Axle fitted with Air Suspension*

## Stub Axles

We offer a full range of stub axles.

- Available in all Spigot and PCD sizes
- Braked and Unbraked.
- With or without mounting plates



## Valx Axles

### DRUM BRAKE AXLES



VALX DRUM  
420/360/300

**Drum brake axles** >

### DISK BRAKE AXLES



430mm and  
370mm

**Disk brake axles** >

### E2! HD ENERGY AXLES



PAN 22

One of the most  
important  
components in the  
100% electric  
refrigerated trailer

**E2!HD energy axles** >

*find out more at [www.valx.eu](http://www.valx.eu)*



# Suspensions

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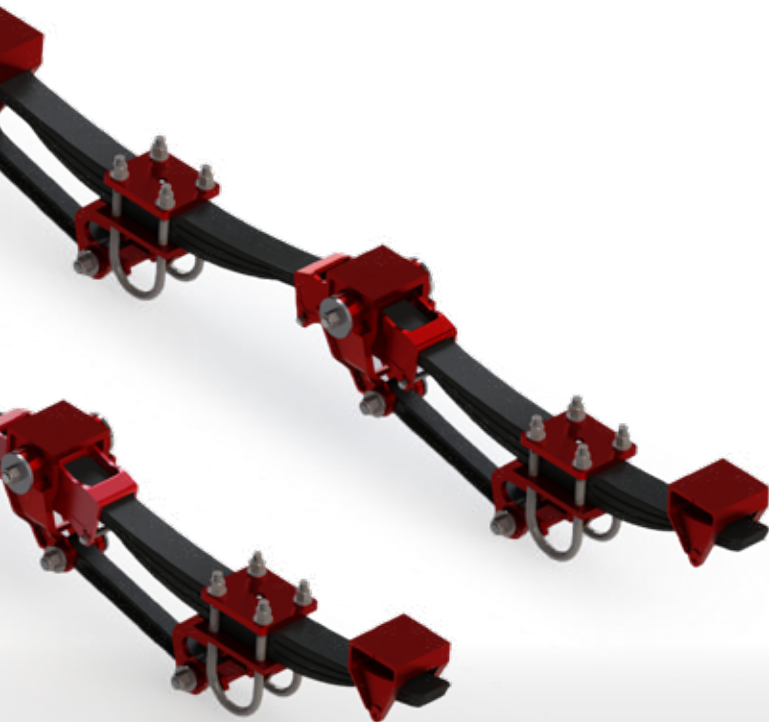
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[www.granningaxles.ie](http://www.granningaxles.ie)





## Overslung 8-10 Tonne



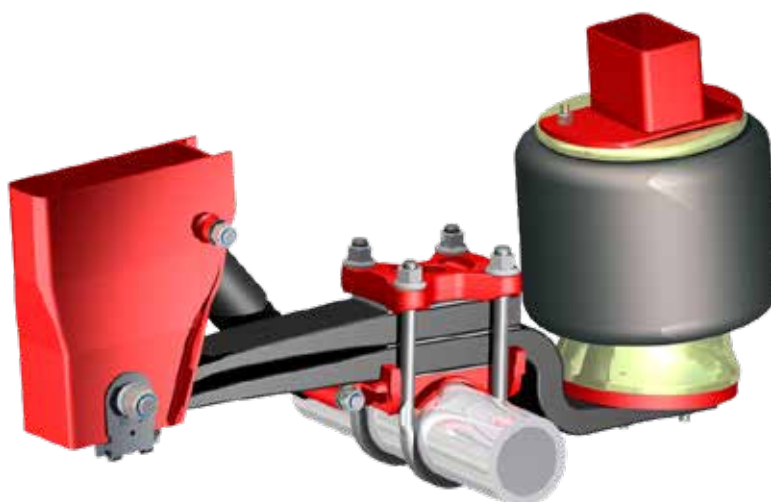
Part No.	Suspension Capacity	Beam Type	Ride Height Range	Pedestal	Airbag offset	Air Bag	Spring
<b>PTS 38-80L</b>	8000Kg	Ø 127mm	360-400mm	None	None	15732F	13028A
<b>31529</b>	9000Kg	Ø 127mm	410-475mm	75mm	20mm	31609	31622
<b>31547</b>	9000Kg	Ø 127mm	335-400mm	None	20mm	31609	31622
<b>31554</b>	9000Kg	Ø 127mm	335-400mm	30mm	20mm	31609	31706
<b>31564</b>	9000Kg	Ø 127mm	340-405mm	30mm	65mm	31609	31706
<b>31577</b>	9000Kg	Ø 127mm	305-370mm	None	20mm	31609	31706
<b>31578</b>	9000Kg	Ø 127mm	355-450mm	50mm	50mm	31609	31622
<b>31580</b>	9000Kg	Ø 127mm	310-375mm	None	65mm	31609	31706
<b>31599</b>	9000Kg	Ø 127mm	405-470mm	100mm	20mm	31609	31706
<b>31800</b>	9000Kg	Ø 127mm	355-420mm	50mm	20mm	31609	31706
<b>31801</b>	9000Kg	Ø 127mm	360-420mm	50mm	65mm	31609	31706
<b>31802</b>	9000Kg	Ø 127mm	400-445mm	75mm	20mm	31609	31706
<b>31804</b>	9000Kg	Ø 127mm	410-475mm	100mm	65mm	31609	31706
<b>31806</b>	9000Kg	Ø 127mm	435-500mm	125mm	65mm	31609	31706
<b>31504</b>	10000Kg	Ø 127mm	460-500mm	50mm	50mm	31629	31628
<b>31506</b>	10000Kg	Ø 127mm	375-420mm	None	90mm	31629	31627
<b>31511</b>	10000Kg	Ø 127mm	460-500mm	50mm	90mm	31629	31628
<b>31533</b>	10000Kg	Ø 127mm	405-445mm	30mm	90mm	31629	31627
<b>31555</b>	10000Kg	Ø 127mm	375-420mm	None	50mm	31629	31627
<b>31573</b>	10000Kg	Ø 127mm	450-490mm	75mm	50mm	31629	31627
<b>31598</b>	10000Kg	Ø 127mm	350-430mm	30mm	50mm	31709	31710
<b>31844</b>	10000Kg	Ø 127mm	350-430mm	30mm	90mm	31709	31710
<b>PTSL 42-105</b>	10500Kg	Ø 127mm	400-445mm	None	70mm	16120F	11380A / 11381A

\* Capacity calculated per Axle.

Actual capacity can vary depending on overhang axles/wheels tyres etc

This is a sample table from our range, other specifications are available. Please contact us if the above does not meet with your requirements

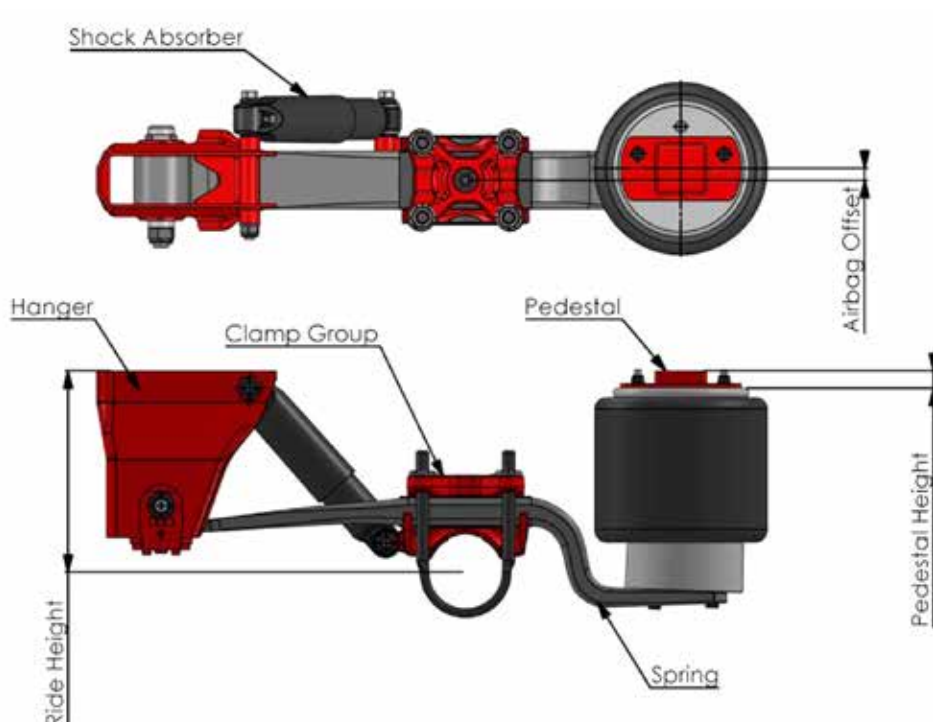
## Overslung 11-13 Tonne (Heavy Duty)



Part No.	Suspension Capacity	Beam Type	Ride Height Range	Pedestal	Airbag offset	Air Bag	Spring
<b>31508</b>	11000Kg	Ø 127mm	540-580mm	8mm	30 / 50 / 95mm	31653	31651
<b>31563</b>	11000Kg	Ø 127mm	365-405mm	50mm	30 / 50 / 95mm	31629	31695
<b>31532</b>	11000Kg	Ø 127mm	390-430mm	75mm	30 / 50 / 95mm	31629	31695
<b>31830</b>	12000Kg	Ø 127mm	455-535mm	None	30 / 50 / 95mm	31709	31726
<b>31833</b>	13000Kg	Ø 127mm	365-405mm	50mm	30 / 50 / 95mm	31629	31704

\* Capacity calculated per Axle.

Actual capacity can vary depending on overhang axles/wheels tyres etc



This is a sample table from our range, other specifications are available. Please contact us if the above does not meet with your requirements

## Underslung 9-10 Tonne

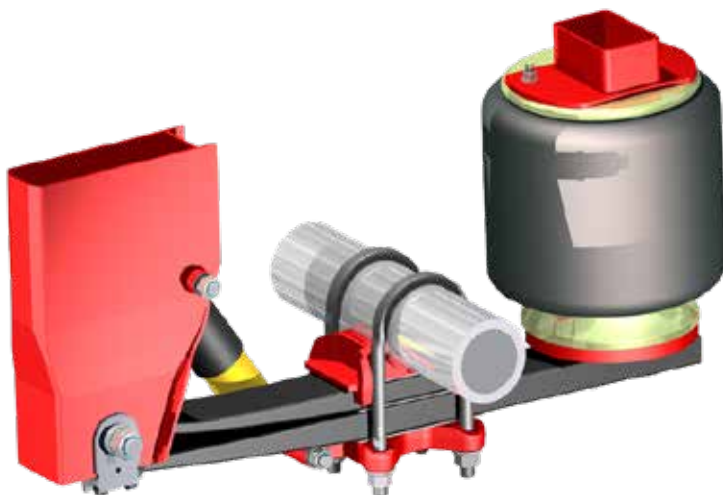


Part No.	Suspension Capacity	Beam Type	Ride Height Range	Pedestal	Airbag offset	Air Bag	Spring
<b>31519</b>	9000Kg	Ø 127mm	205-260mm	30mm	30mm	31609	31667
<b>31536</b>	9000Kg	Ø 127mm	285-345mm	75mm	20mm	31609	31657
<b>31540</b>	9000Kg	Ø 127mm	220-280mm	None	20mm	31609	31657
<b>31542</b>	9000Kg	Ø 127mm	220-280mm	None	20mm	31609	31657
<b>31502</b>	10000Kg	Ø 127mm	170-215mm	None	50mm	31629	31626
<b>31512</b>	10000Kg	Ø 127mm	220-265mm	50mm	50mm	31629	31626
<b>31514</b>	10000Kg	Ø 127mm	195-240mm	30mm	50mm	31629	31626
<b>31515</b>	10000Kg	Ø 127mm	245-290mm	75mm	50mm	31629	31626
<b>31522</b>	10000Kg	Ø 127mm	170-215mm	None	90mm	31629	31626
<b>31586</b>	10000Kg	Ø 127mm	270-315mm	100mm	50mm	31629	31626
<b>31587</b>	10000Kg	Ø 127mm	270-315mm	100mm	90mm	31629	31626
<b>PTL17 105</b>	10500Kg	Ø 127mm	170-200mm	None	90mm	16015	11380A / 11381A
<b>PTL17 85</b>	10500Kg	Ø 127mm	170-200mm	None	0mm	16015	12135A
<b>PTL26 105</b>	10500Kg	Ø 127mm	215-260mm	43mm	70mm	16120	11380A / 11381A
<b>PTL26 85</b>	10500Kg	Ø 127mm	215-260mm	43mm	0mm	16120	12135A
<b>PTS38 105</b>	10500Kg	Ø 127mm	320-405mm	80mm	70mm	15699	11380A / 11381A
<b>PTS38 85</b>	10500Kg	Ø 127mm	320-405mm	80mm	0mm	15699	12135A

\* Capacity calculated per Axle

This is a sample table from our range, other specifications are available. Please contact us if the above does not meet with your requirements

# Underslung 11-13 Tonne (Heavy Duty)



Part No.	Suspension Capacity	Beam Type	Ride Height Range	Pedestal	Airbag offset	Air Bag	Spring
<b>31507</b>	11000Kg	Ø 127mm	295-355mm	8mm	30 / 50 / 95mm	31653	31651
<b>31559</b>	11000Kg	Ø 127mm	210-255mm	50mm	30 / 50 / 95mm	31629	31700
<b>31560</b>	11000Kg	Ø 127mm	250-285mm	30mm	30 / 50 / 95mm	31629	31700
<b>31561</b>	11000Kg	Ø 127mm	265-310mm	50mm	30 / 50 / 95mm	31629	31700
<b>31594</b>	11000Kg	Ø 127mm	310-355mm	100mm	30 / 50 / 95mm	31629	31700
<b>31834</b>	11000Kg	Ø 127mm	290-330mm	75mm	30 / 50 / 95mm	31629	31651
<b>31842</b>	11000Kg	Ø 127mm	215-260mm	50mm	56mm	31629	31660
<b>31505</b>	12000Kg	Ø 127mm	205-250mm	50mm	30 / 50 / 95mm	31629	31726
<b>31828</b>	12000Kg	Ø 127mm	205-245mm	50mm	90mm	31629	31726
<b>31854</b>	12000Kg	Ø 127mm	195-235mm	30mm	90mm	31629	31726
<b>PTL17 125</b>	12500Kg	Ø 127mm	170-200mm	None	70mm	16015	11380A / 11381A +11901A
<b>PTS43 125</b>	12500Kg	Ø 127mm	370-455mm	130mm	0mm	16124	11380A / 11381A +11901A
<b>31526</b>	13000Kg	Ø 127mm	200-245mm	None	30 / 50 / 95mm	31629	31675
<b>31596</b>	13000Kg	Ø 127mm	205-245mm	None	30 / 50 / 95mm	31629	31708
<b>31826</b>	13000Kg	Ø 127mm	260-300mm	50mm	30 / 50 / 95mm	31629	31708
<b>31831</b>	13000Kg	Ø 127mm	235-275mm	30mm	30 / 50 / 95mm	31629	31708
<b>31848</b>	13000Kg	□ 150mm	215-255mm	30mm	95mm	31629	31708
<b>31849</b>	13000Kg	Ø 127mm	175-215mm	50mm	30 / 50 / 95mm	31629	31740
<b>31852</b>	13000Kg	□ 150mm	240-280mm	50mm	95mm	31629	31708

\* Capacity calculated per Axle

This is a sample table from our range, other specifications are available. Please contact us if the above does not meet with your requirements

## Air Suspension Lift Axles

### Mid Lift



The Midlift is attached to the middle of the axle beam by a seat welded to the axle beam. U bolts clamp the arm to the seat. The Midlift gives good ground clearance.

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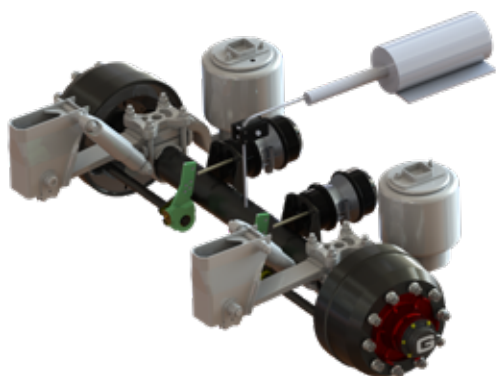
### Cradle Lift



The Cradle lift attaches to the suspension through pivot bolts in the air suspension hanger. Good for applications where space is limited in the centre of the trailer. A low loader version is also available.

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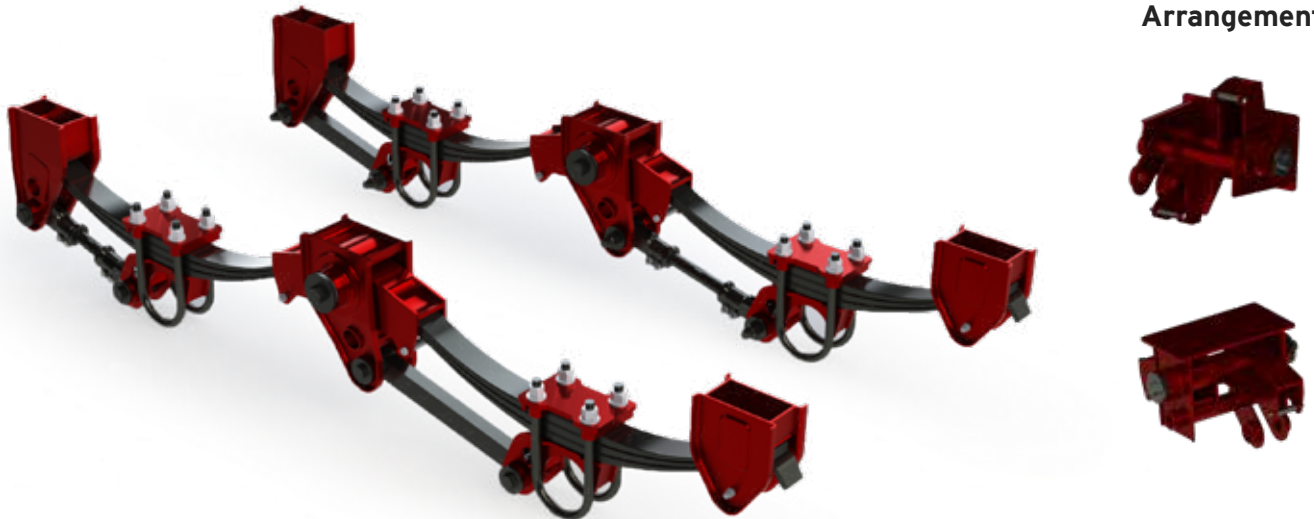
### Piston Lift



The Piston lift is fitted to the centre of the trailer. A wire rope is clamped to the middle of the axle and attached to the piston. There is good ground clearance and works where there is limited space on the axle beam or wide tyres are being used.

## Overslung Type

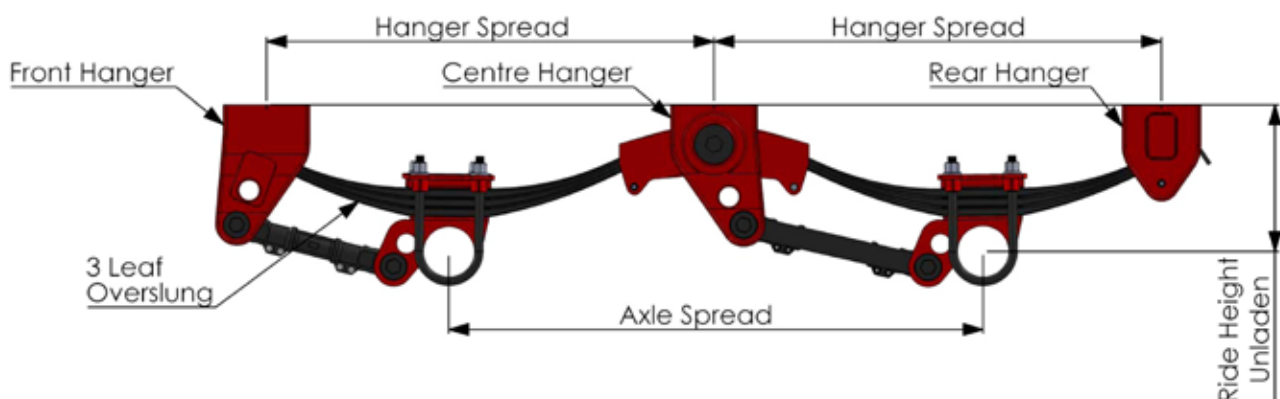
### Offset Hanger Arrangement



Part No	Beam Type	Suspension Capacity*	Axle Spread	Number of Axles	Ride Height (unladen)	SpringType
<b>SUSP G 20957 305</b>	Ø 127mm	11,000kg	1310mm	Tri	393mm	4 Leaf
<b>SUSP G 20948 265</b>	Ø 127mm	11,000kg	1310mm	Tandem	356mm	4 Leaf
<b>SUSP G 20861 305</b>	Ø 127mm	11,000kg	1360mm	Tandem	385mm	4 Leaf
<b>SUSP G 20722 305</b>	Ø 127mm	11,000kg	N/A	Mono	385mm	4 Leaf
<b>SUSP G 20925 305</b>	Ø 127mm	11,000kg	1360mm	Tri	385mm	4 Leaf
<b>SUSP G 20514 305</b>	Ø 127mm	11,000kg	1310mm	Tri	370mm	3 Leaf
<b>SUSP G 20515 265</b>	Ø 127mm	11,000kg	1360mm	Tri	330mm	3 Leaf
<b>SUSP G 20512 305</b>	Ø 127mm	11,000kg	1310mm	Tandem	370mm	3 Leaf
<b>SUSP G 20513 305</b>	Ø 127mm	11,000kg	1360mm	Tandem	370mm	3 Leaf
<b>SUSP G 20511 305</b>	Ø 127mm	11,000kg	N/A	Mono	370mm	3 Leaf

\* Capacity calculated per Axle

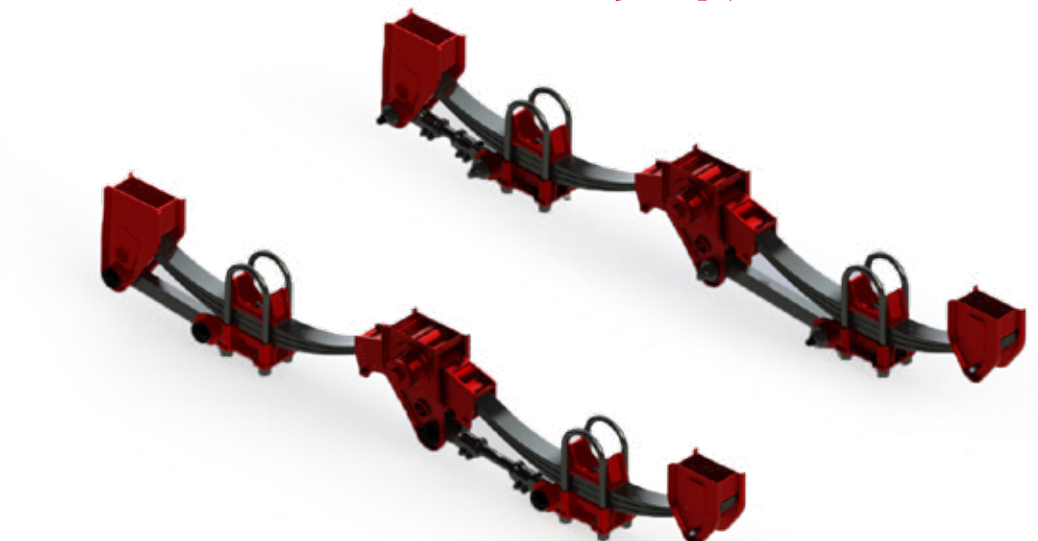
Other suspension arrangements with mono leaf, multileaf , riser blocks also available. See website for more info.  
Offset hangers available in the above arrangements on request.



This is a sample table from our range, other specifications are available. Please contact us if the above does not meet with your requirements



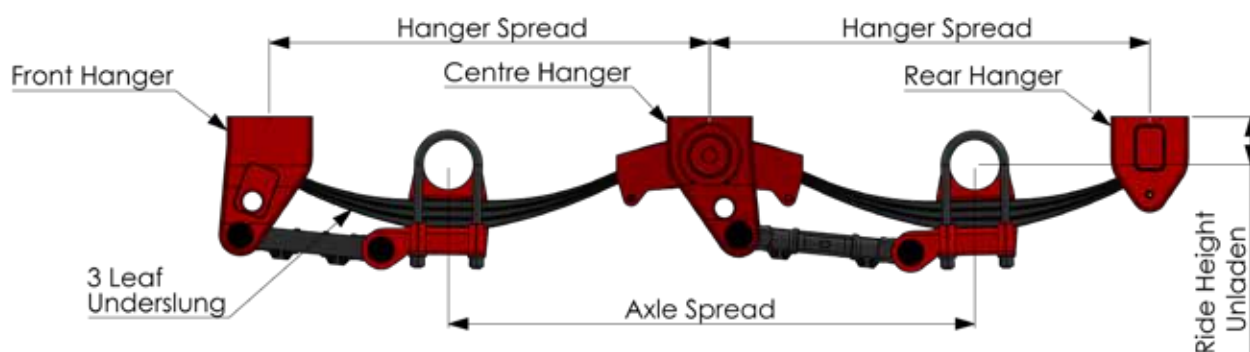
## Underslung Type



Part No	Beam Type	Suspension Capacity*	Axle Spread	Number of Axles	Ride Height (Unladen)	Spring Type
<b>SUSP G 20516 265</b>	Ø 127mm	11,000kg	N/A	Mono	68mm	3 Leaf
<b>SUSP G 20517 305</b>	Ø 127mm	11,000kg	1310mm	Tandem	105mm	3 Leaf
<b>SUSP G 20518 305</b>	Ø 127mm	11,000kg	1360mm	Tandem	105mm	3 Leaf
<b>SUSP G 20519 305</b>	Ø 127mm	11,000kg	1310mm	Tri	105mm	3 Leaf
<b>SUSP G 20520 265</b>	Ø 127mm	11,000kg	1360mm	Tri	75mm	3 Leaf
<b>SUSP G 20772 305</b>	Ø 127mm	11,000kg	1310mm	Tri	105mm	4 Leaf
<b>SUSP G 20856 305</b>	Ø 127mm	11,000kg	1550mm	Tandem	137mm	3 Leaf
<b>SUSP G 20857 305</b>	Ø 127mm	11,000kg	1550mm	Tandem	139mm	4 Leaf
<b>SUSP G 20906 305</b>	Ø 127mm	11,000kg	1310mm	Tandem	105mm	4 Leaf
<b>SUSP G 20976 305</b>	Ø 127mm	11,000kg	1310mm	Tri	105mm	4 Leaf

\* Capacity calculated per Axle

Other suspension arrangements with mono leaf, multileaf , riser blocks also available. See website for more info.



This is a sample table from our range, other specifications are available. Please contact us if the above does not meet with your requirements

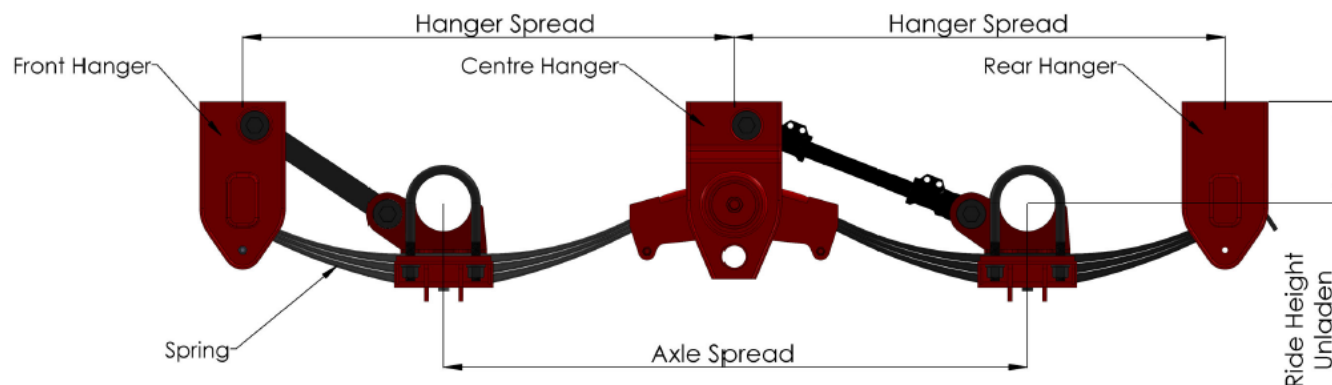
## Ultra Underslung Type



Part No	Beam Type	Suspension Capacity*	Axle Spread	Number of Axles	Ride Height (Unladen)	Spring Type
<b>SUSP G 20557</b>	Ø 127mm	11,000kg	1310mm	Tri	230mm	3 Leaf
<b>SUSP G 20558</b>	Ø 127mm	11,000kg	1360mm	Tri	230mm	3 Leaf
<b>SUSP G 20559</b>	Ø 127mm	11,000kg	1310mm	Tandem	230mm	3 Leaf
<b>SUSP G 20560</b>	Ø 127mm	11,000kg	1360mm	Tandem	230mm	3 Leaf
<b>SUSP G 20561</b>	Ø 127mm	11,000kg	N/A	Mono	230mm	3 Leaf
<b>SUSP G 20730</b>	Ø 127mm	11,000kg	1310mm	Tandem	230mm	4 Leaf
<b>SUSP G 20733</b>	Ø 127mm	11,000kg	1360mm	Tandem	230mm	4 Leaf
<b>SUSP G 20776</b>	Ø 127mm	11,000kg	1310mm	Tri	230mm	4 Leaf
<b>SUSP G 20807</b>	Ø 127mm	11,000kg	1550mm	Tandem	235mm	12 Leaf Multi
<b>SUSP G 20818</b>	Ø 127mm	11,000kg	1550mm	Tandem	235mm	12 Leaf Multi
<b>SUSP G 20834</b>	Ø 127mm	11,000kg	1600mm	Tandem	238mm	12 Leaf Multi

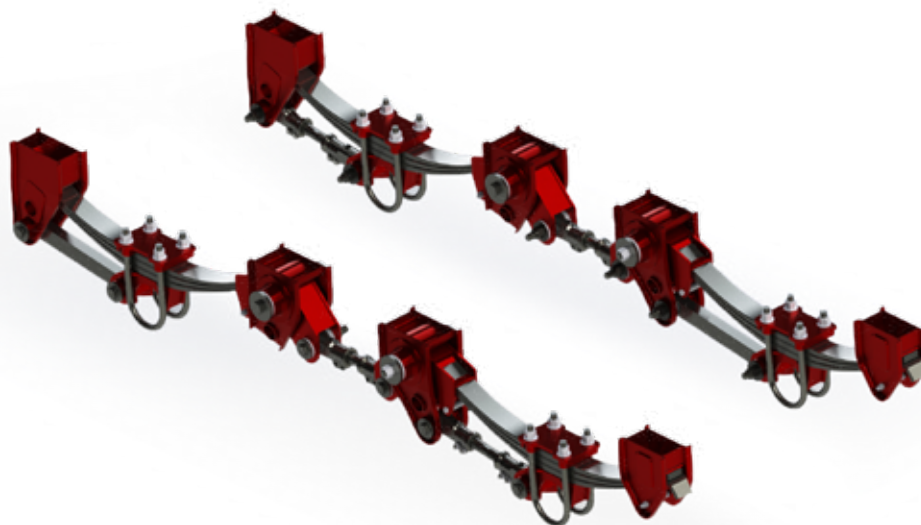
\* Capacity calculated per Axle

Other suspension arrangements with mono leaf, multileaf , riser blocks also available. See website for more info.



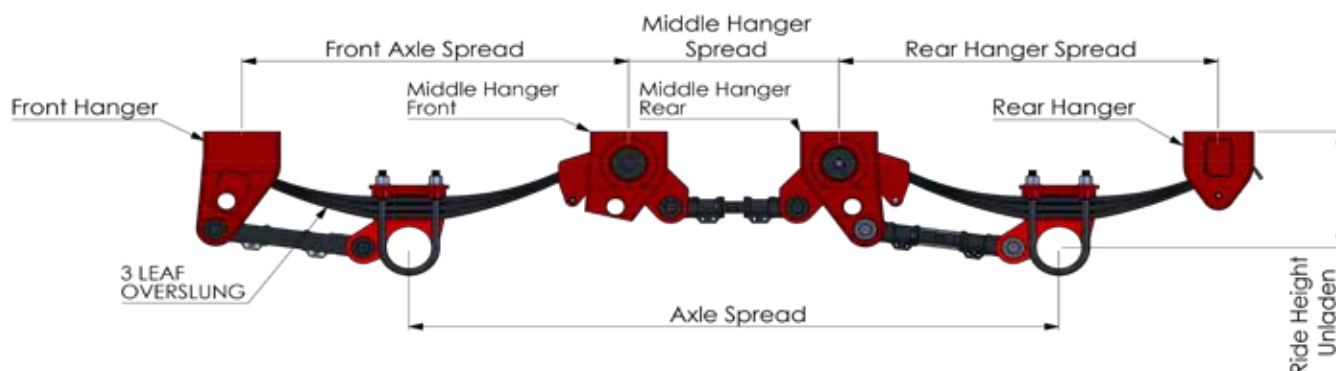
This is a sample table from our range, other specifications are available. Please contact us if the above does not meet with your requirements

## Wide Spread Suspension



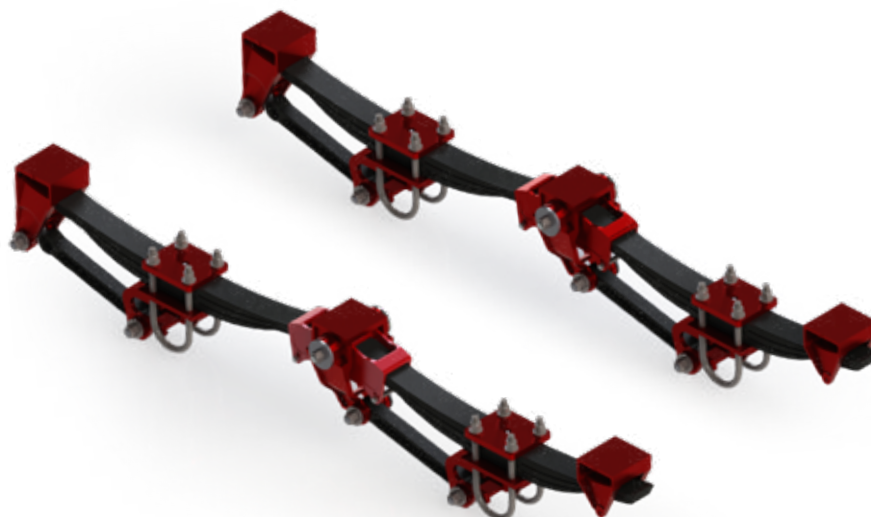
Part No	Beam Type	Suspension Capacity*	Axle Spread	Clamping Style	Ride Height (unladen)	Spring Type
<b>SUSP G 20885</b>	Ø 127mm	11,000kg	1850mm	Underslung	115mm	3 Leaf
<b>SUSP G 20922 305</b>	Ø 127mm	11,000kg	1850mm	Overslung	362mm	3 Leaf
<b>SUSP G 20554</b>	Ø 127mm	11,000kg	1850mm	Underslung	115mm	4 Leaf

\* Capacity calculated per Axle



This is a sample table from our range, other specifications are available. Please contact us if the above does not meet with your requirements

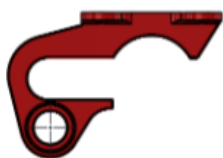
# 13 Tonne 100mm Wide (Heavy Duty)



Part No	Axle Spread (mm)	Unladen Height	No. of Axles	Spring Type	Axle Seat Type	Hanger Spacing	Hanger Height
97656	1360	315	TANDEM	100mm 3 LEAF	97704	1205,1205	A=286, B=289, C=175
97657	1360	380	TANDEM	100mm 3 LEAF	97704	1205,1205	A=286, B=289, C=175
97658	1360	315	TANDEM	100mm 3 LEAF	97704	1205,1205	A=286, B=289, C=175
97659	1360	315	TANDEM	100mm 3 LEAF	36187	1205,1205	A=286, B=289, C=175
97660	1360	380	TANDEM	100mm 3 LEAF	97704	1205,1205	A=286, B=289, C=175
97661	1360	380	TANDEM	100mm 3 LEAF	36187	1205,1205	A=286, B=289, C=175
97668	1500	315	TANDEM	100mm 3 LEAF	97704	1260,1260	A=286, B=289, C=175
97669	1500	315	TANDEM	100mm 3 LEAF	36187	1260,1260	A=286, B=289, C=175
97670	1500	380	TANDEM	100mm 3 LEAF	97704	1260,1260	A=286, B=289, C=175
97671	1500	380	TANDEM	100mm 3 LEAF	97704	1260,1260	A=286, B=289, C=175
97672	1500	380	TANDEM	100mm 3 LEAF	36187	1260,1260	A=286, B=289, C=175
97773	1500	315	TANDEM	100mm 3 LEAF	97704	1260,1260	A=286, B=289, C=175
97676	1360	315	TRI	100mm 3 LEAF	97704	1205,1363, 1205	A=286, B=289, C=175

Other suspension arrangements with mono leaf, multileaf, riser blocks also available. See website for more info.

## Axle Seat Types



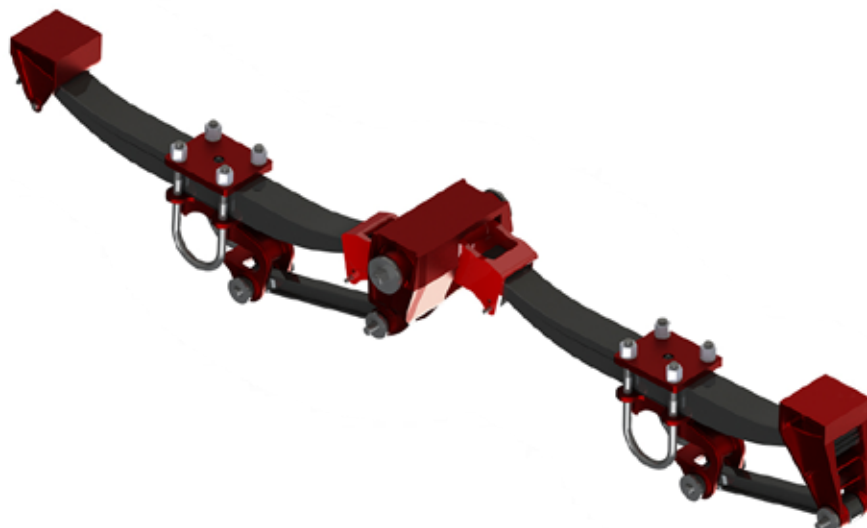
97704 SEAT  
(R127)



36187 SEAT  
(150SQ)

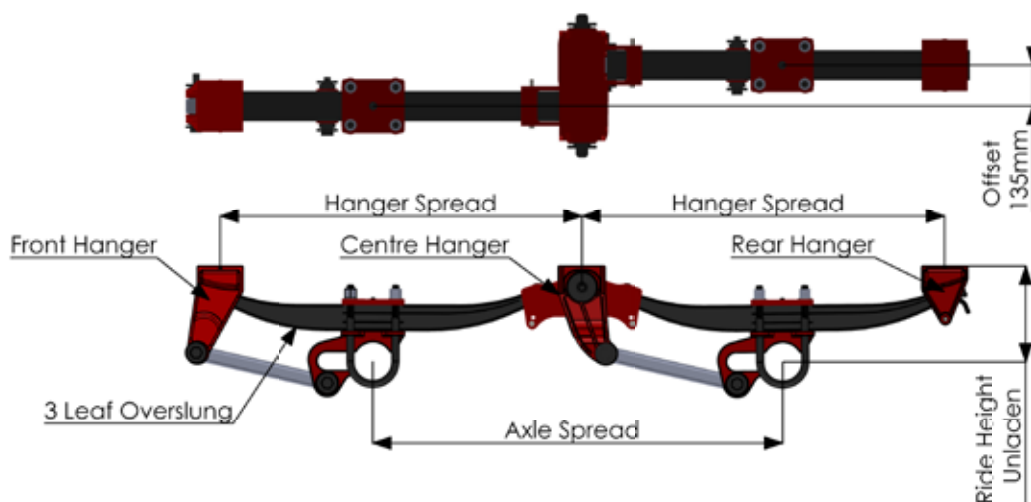
This is a sample table from our range, other specifications are available. Please contact us if the above does not meet with your requirements

# 13 Tonne 100mm Wide Offset (Heavy Duty)



Part No	Axle Spread (mm)	Unladen Height	No. of Axles	Spring Type	Axle Seat Type	Hanger Spacing	Hanger Height
97662	1360	315	TANDEM	100mm 3 LEAF	97704	1205,1205	A=286, B=289, C=175
97663	1360	315	TANDEM	100mm 3 LEAF	97704	1205,1205	A=286, B=289, C=175
97664	1360	315	TANDEM	100mm 3 LEAF	36187	1205,1205	A=286, B=289, C=175
97665	1360	380	TANDEM	100mm 3 LEAF	97704	1205,1205	A=286, B=289, C=175
97666	1360	380	TANDEM	100mm 3 LEAF	97704	1205,1205	A=286, B=289, C=175
97667	1360	380	TANDEM	100mm 3 LEAF	36187	1205,1205	A=286, B=289, C=175
97673	1500	315	TANDEM	100mm 3 LEAF	36187	1260,1260	A=286, B=289, C=175
97674	1500	380	TANDEM	100mm 3 LEAF	97704	1260,1260	A=286, B=289, C=175
97675	1500	380	TANDEM	100mm 3 LEAF	36187	1260,1260	A=286, B=289, C=175
97774	1500	315	TANDEM	100mm 3 LEAF	97704	1260,1260	A=286, B=289, C=175
97781	1500	315	TANDEM	100mm 3 LEAF	97704	1260,1260	A=286, B=289, C=175

Other suspension arrangements with mono leaf, multileaf , riser blocks also available. See website for more info.

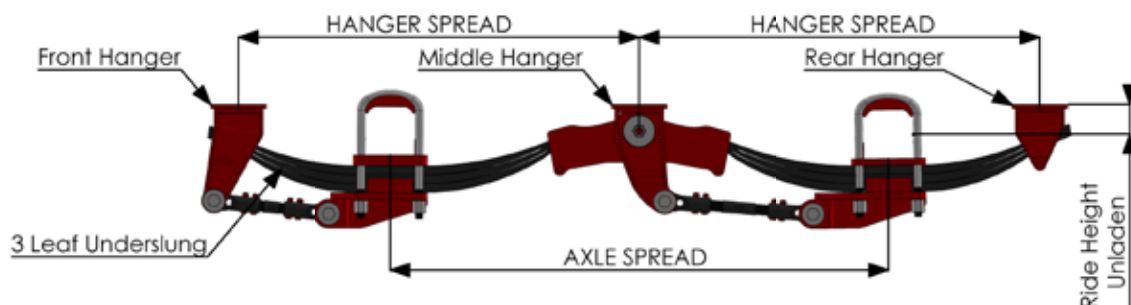


This is a sample table from our range, other specifications are available. Please contact us if the above does not meet with your requirements

# 13 Tonne 100mm Wide Spring (Heavy Duty)



Part No	Axle Spread (mm)	Unladen Height	No. of Axles	Spring Type	Axle Beam	Hanger Spacing	Hanger Height
97883	1544	82 / 93	TANDEM	100mm 3 LEAF	□ 150mm	1243, 1243	A=286, B=289, C=175



This is a sample table from our range, other specifications are available. Please contact us if the above does not meet with your requirements



## 16 Tonne series (Heavy Duty)

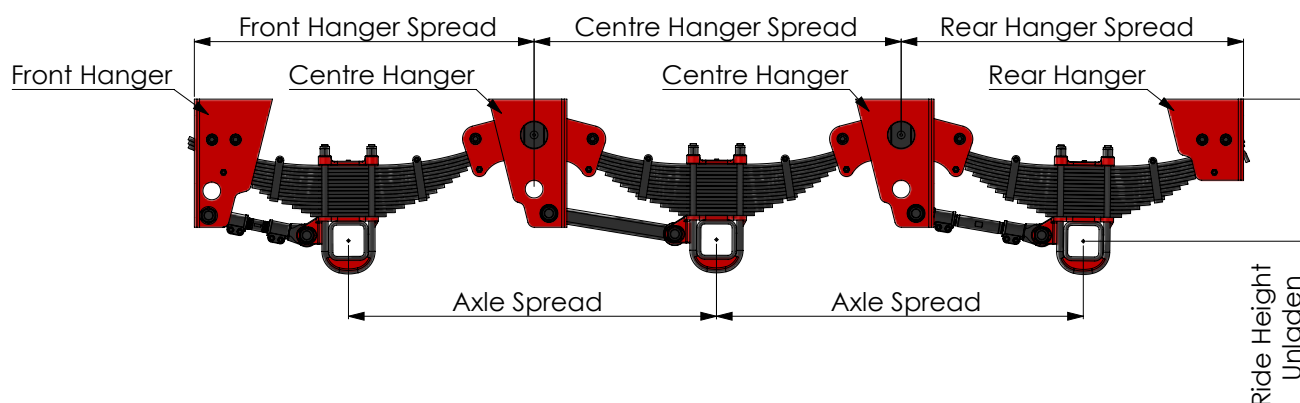
### Offset Hanger Arrangement



Part No	Beam Type	Suspension Capacity*	Axle Spread	Number of Axles	Ride Height (unladen)	Spring Type
<b>SUSP G 21041</b>	□ 150mm	16,000kg	1360mm	Tandem	200mm	9 leafs 90x16
<b>SUSP G 21042</b>	□ 150mm	16,000kg	1500mm	Tandem	200mm	9 leafs 90x16
<b>SUSP G 21043</b>	□ 150mm	16,000kg	1360mm	Tandem	250mm	9 leafs 90x16
<b>SUSP G 21044</b>	□ 150mm	16,000kg	1500mm	Tandem	250mm	9 leafs 90x16
<b>SUSP G 21045</b>	□ 150mm	16,000kg	1360mm	Tandem	395mm	9 leafs 90x16
<b>SUSP G 21046</b>	□ 150mm	16,000kg	1820mm	Tandem	444mm	9 leafs 90x16
<b>SUSPM150-2</b>	□ 150mm	16,000kg	1500mm	Tandem	395mm	9 leafs 90x16

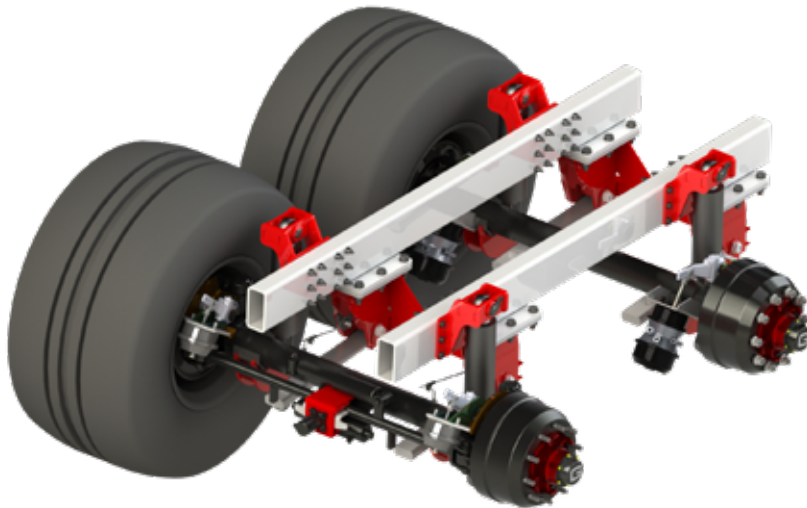
\* Capacity calculated per Axle

Offset hangers available in the above arrangements on request.



This is a sample table from our range, other specifications are available. Please contact us if the above does not meet with your requirements

## GH Series



Capacity	Suspension travel (min to max)	Ride Height range available	Axle Beam compatible	Axle Type compatibility	Suspension Features
12000kg per axle	300mm	240mm – 440mm	Ø 127mm	Fixed	Dual Acting Rams for Axle Lift (if required)
			□ 120mm	Self-Steer	Dual Acting Rams allow cross piping for added stability
			□ 150mm	Command Steer Axles	Large travel operation for uneven surfaces

**Hydro-Pneumatic Suspension** can be supplied with a control system to allow the suspension setup to maintain a constant ride height regardless of the vehicle load. This setup is suitable to vehicle applications that require a constant working ride height. Hydraulic suspension is very advantageous to the constantly changing loads on agricultural machinery during operation. This suspension setup also provides a more stable and consistent centre of gravity thus improving control of the vehicle at a range of speeds and cornering.

Using dual acting rams in this suspension setup allows for future expansion with developing controls systems capable of “slope control” during off-road operations. This will actively keep the load/trailer body in a vertical position when operating on uneven ground to improve safety and further reduce the risk of vehicle rolling.

The Dual Acting Ram allows an axle to be lifted when the trailer is unladen, this helps in the reduction of tyre wear.



This is a sample table from our range, other specifications are available. Please contact us if the above does not meet with your requirements

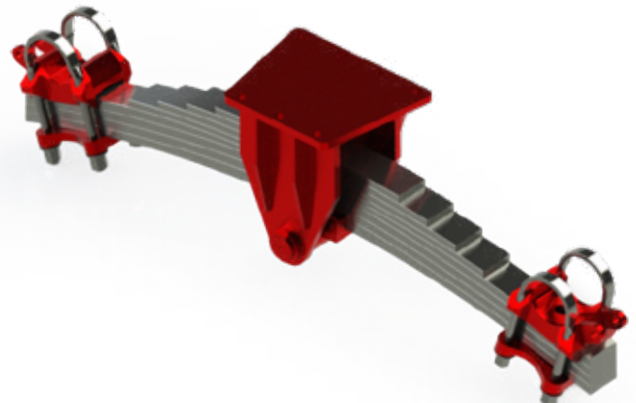
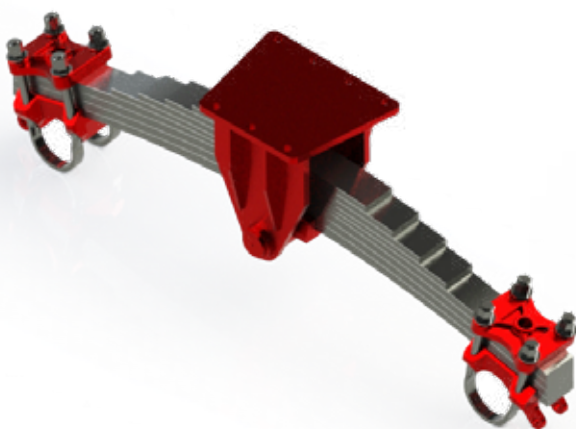


Part No	Beam Type	Suspension Capacity*	Axle Spread	Clamping Style	Spring Type	Ride Height (unladen)
<b>SUSP G 20601</b>	Ø 127mm	11,300kg	1172mm	Overslung	6 Leaf Multi	337mm
<b>SUSP G 20612</b>	□ 120mm	11,300kg	1295mm	Overslung	6 Leaf Multi	348mm
<b>SUSP G 20602</b>	Ø 127mm	11,300kg	1366mm	Underslung	6 Leaf Multi	137mm
<b>SUSP G 20613</b>	□ 120mm	11,300kg	1173mm	Overslung	6 Leaf Multi	334mm
<b>SUSP G 20603</b>	Ø 127mm	11,300kg	1237mm	Underslung	6 Leaf Multi	122mm
<b>SUSP G 20613</b>	Ø 127mm	13,200kg	1173mm	Overslung	7 Leaf Multi	334mm
<b>SUSP G 20889</b>	Ø 127mm	16,200kg	1642mm	Underslung	10 Leaf Multi	257mm

\* Capacity calculated per Tandem

## Overslung Type

## Underslung Type



This is a sample table from our range, other specifications are available. Please contact us if the above does not meet with your requirements

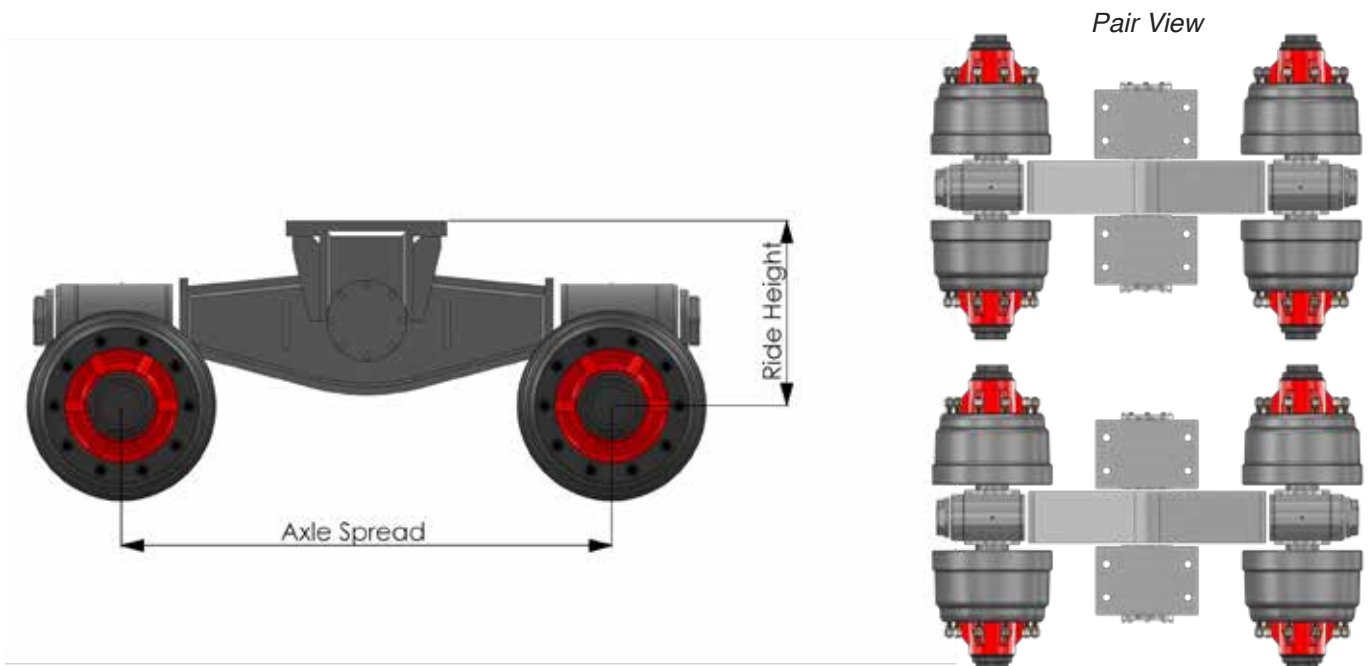
# Heavy Duty Argo Bogie



Part No	Beam Type	Capacity* (20km/h)	Axle Spread	Clamping Style	Axle Track	Mounting Height**
<b>FW41-1550</b>	Ø 127mm	40,000kg Pair	1220mm	Overslung	860mm	Variable
<b>FW43-1550</b>	Ø 127mm	80,000kg Pair	1550mm	Overslung	965mm	Variable

\* Capacity calculated per pair (as per drawing below) and varies subject to speed.

\*\* Mounting Height options available: 335mm; 360mm; 457mm.



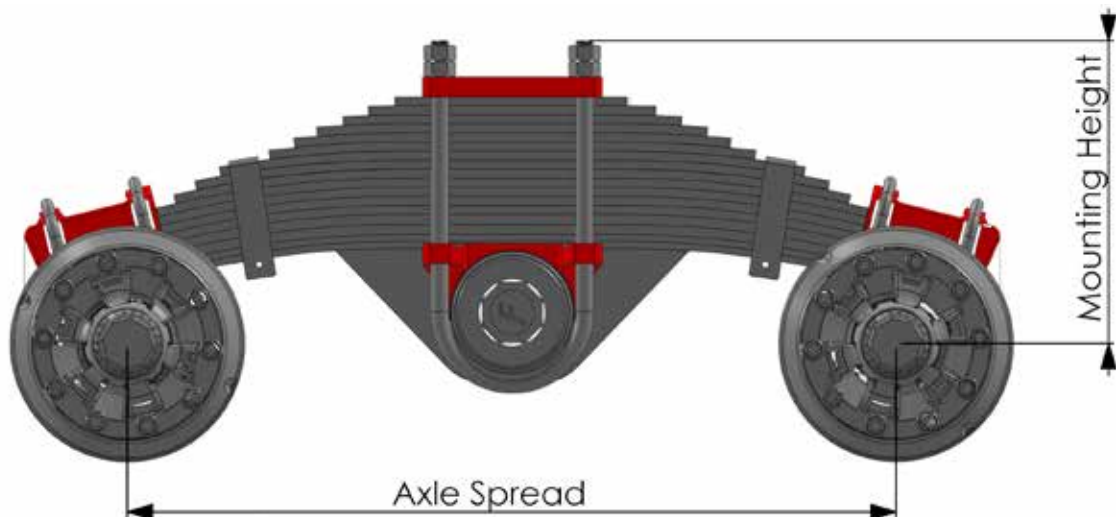
This is a sample table from our range, other specifications are available. Please contact us if the above does not meet with your requirements

# Heavy Duty Cantilever Suspension



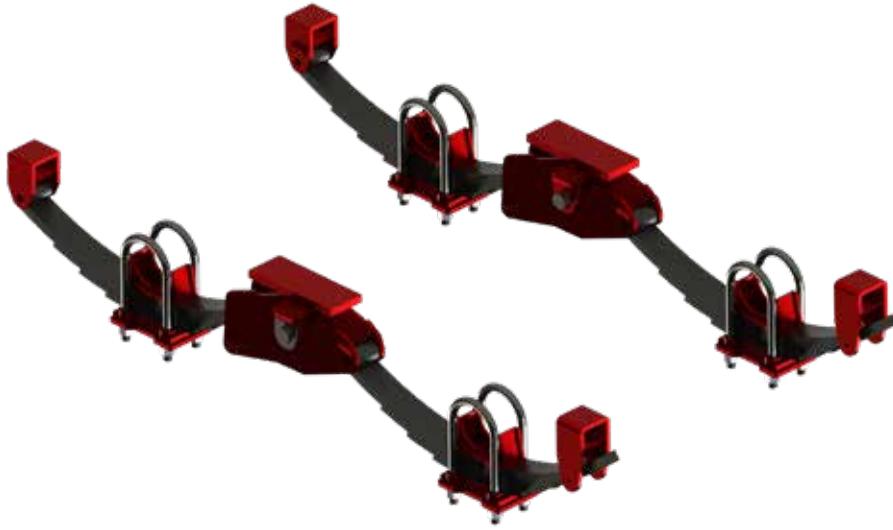
Part No	Beam Type	Capacity* (105km/h)	Axle Spread	Clamping Style	Axle Track	Mounting Height
<b>FW31-900/660W</b>	□ 150mm	36,000kg	1550mm	Overslung	1840mm	660mm
<b>FW31-900/660</b>	□ 150mm	40,000kg	1550mm	Overslung	1850mm	660mm

\* Capacity calculated per unit and varies subject to speed.



This is a sample table from our range, other specifications are available. Please contact us if the above does not meet with your requirements

## Agri Suspension



Part No	Beam Type	Suspension Capacity*	Axle Spread	Clamping Style	Number of Axles	Ride Height (unladen)	Spring Type
<b>SUSP G 20541</b>	■ 90mm	8,000kg	1304mm	Overslung	Tandem	371mm	7 Leaf
<b>SUSP G 20860</b>	■ 70mm	5,000kg	1175mm	Overslung	Tandem	363mm	5 Leaf
<b>SUSP G 20870</b>	■ 90mm	5,000kg	1150mm	Overslung	Tandem	358mm	5 Leaf
<b>SUSP G 20841</b>	■ 90mm	8,000kg	N/A	Overslung	Mono	349mm	7 Leaf
<b>SUSP G 20949</b>	Ø 127mm	8,000kg	1222mm	Overslung	Tandem	397mm	7 Leaf
<b>SUSP G 20869</b>	■ 90mm	5,000kg	N/A	Overslung	Mono	358mm	5 Leaf
<b>SUSP G 20845</b>	■ 100mm	8,000kg	1222mm	Underslung	Tandem	133mm	7 Leaf
<b>SUSP G 20677</b>	Ø 127mm	8,000kg	1222mm	Underslung	Tandem	115mm	7 Leaf

\* Capacity calculated per Axle & at Max 40Km/h.



## VI (Valx Integra) Air Suspension

<b>Weight</b>	Estimated 100 kg
<b>Air suspension</b>	9 / 10 Tonnes
<b>Axle beam</b>	Applicable on ø 146 mm
<b>Air spring</b>	ø 300 mm / ø 350 mm
<b>Trailing arm</b>	200-615 ( a wide range of ride heights covered)
<b>Air springs offset</b>	Multiple possibilities
<b>Bolt on axle lift</b>	Optional
<b>L1/L2</b>	L1: 500mm L2: 340/380mm



*find out more at [www.valx.eu](http://www.valx.eu)*

# Axle & Suspension Sets

## Sets

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[www.granningaxles.ie](http://www.granningaxles.ie)



## Air Suspension & Axle Set



As per customer specifications, we can provide a full engineering design study on an Air Suspension solution complete with detailed drawings for approval, enabling us to provide a fully assembled Axle and Suspension set.

The approved Suspension set will be delivered fully assembled as per requested chassis centres and ride height. Granning Axles and Suspensions also provide the Air Suspension set with Brake Chambers and Slack Adjusters fitted and tested to meet brake calculation requirements. Once delivered, our customers need only weld the suspension hangers and pedestals to their chassis and finish by bolting the airbag in place thus providing savings in production times and reducing labour costs.

For further information on this service, please refer to our Request Form Section (pages 100-107), visit our website or simply contact our Engineering Department.

Additionally, a member of our team is always available to take your call.

## Mechanical Suspension & Axle Set



As per customer specifications, we can provide a full engineering design study on a Mechanical Suspension solution complete with detailed drawings for approval, enabling us to provide a fully assembled Axle and Suspension set.

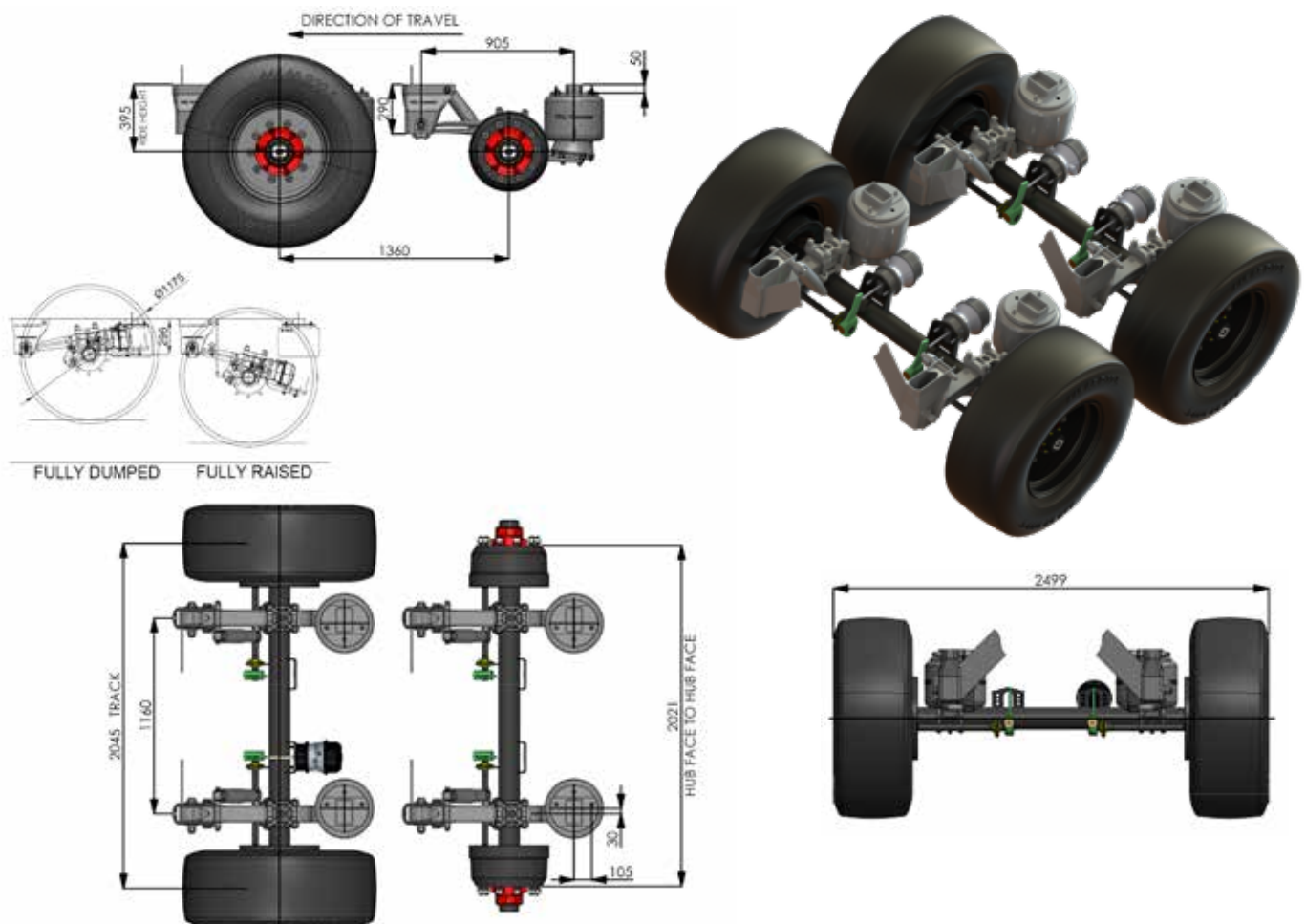
The approved Suspension set will be delivered fully assembled as per requested chassis centres and ride height. Granning Axles and Suspensions also provide the Mechanical Suspension set with Brake Chambers and Slack Adjusters fitted and tested to meet brake calculation requirements. Once delivered, our customers need only weld the suspension hangers to their chassis and finish by welding bracing between the front and centres in place thus providing savings in production times and reducing labour costs. Granning Axles can also provide the hangers with the bracing pre-welded in place further reducing labour times and costs for our customers.

For further information on this service, please refer to our Request Form Section (pages 100-107), visit our website or simply contact our Engineering Department.

Additionally, a member of our team is always available to take your call.

## Air Suspension Tandem Axle 420x180 Brake

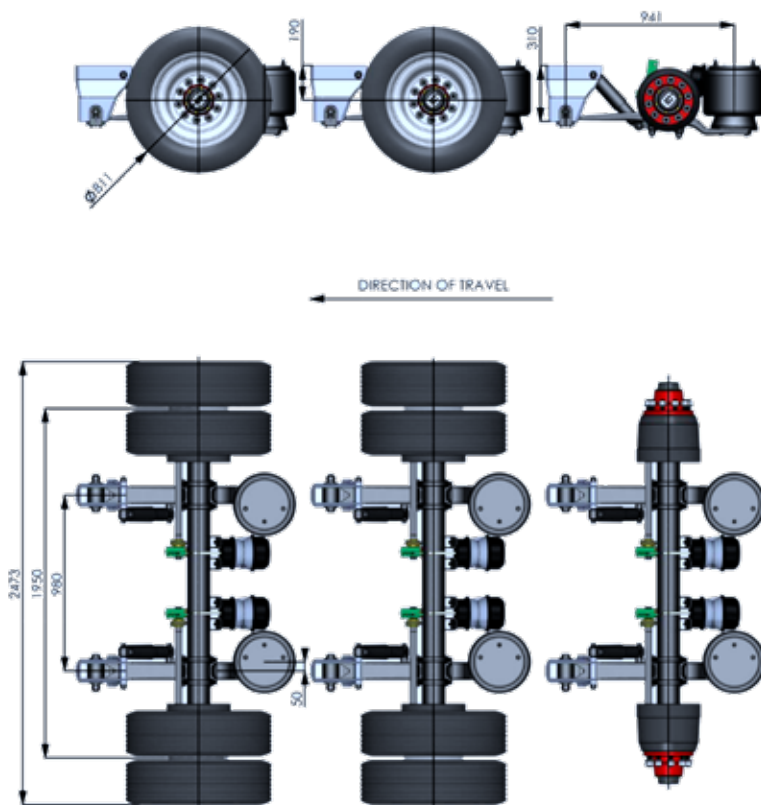
- Air Suspension 31833, 13 Tonne  
Ride Height range 365mm-405mm  
30mm Offset, 50mm Pedestal, Ø350mm Airbag
- 60183FW Axle (x3)  
100 Series 420x180mm Brake, 2045mm Track, ABS on both Axles  
610mm camshaft, metric single M22 Wheel Nut, 10 studs
- Set supplied with Type 24/30 Brake Chambers
- Automatic Slack Adjusters
- Axle seat welded to beam and clamp group torqued up
- Tyres Shown 445/65 R22.5



\*See air suspension manual for bracing and welding instructions.

## Air Suspension Tri Axle 310x190 Brake

- Air Suspension 31501 10 Tonne  
Ride Height range 175-210mm
- 60326F Axle (x3)  
300 Series 310x190mm brake, 1950mm track  
610mm camshaft, metric twin M22, 10 studs
- Set supplied with Type 24/30 Brake Chambers
- Automatic Slack Adjusters
- Axle seat welded to beam and clamp group torqued up
- Tyres shown 235/75 R17.5

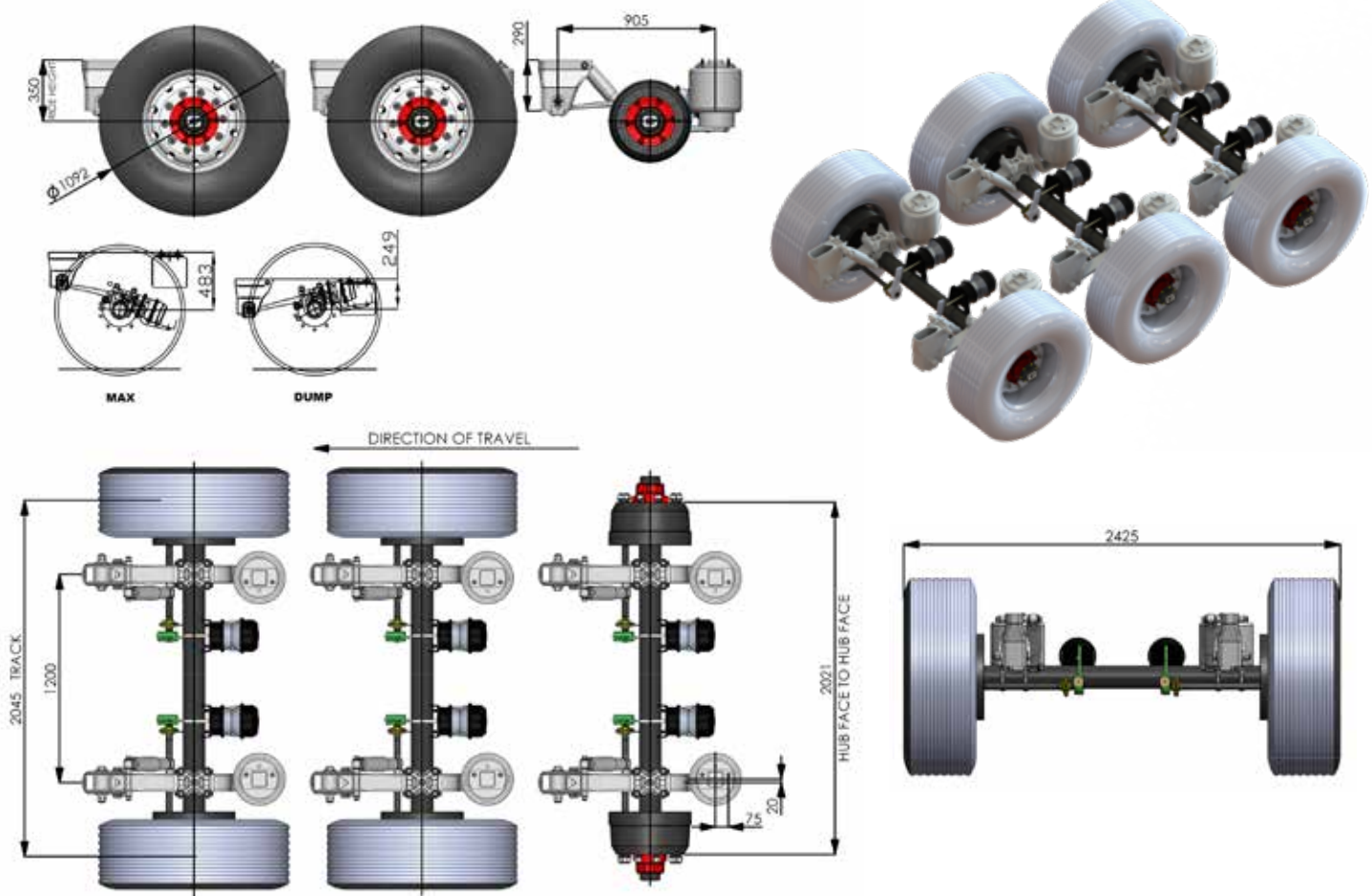


\*See air suspension manual for bracing and welding instructions.



## Air Suspension Tri Axle 420x180 Brake

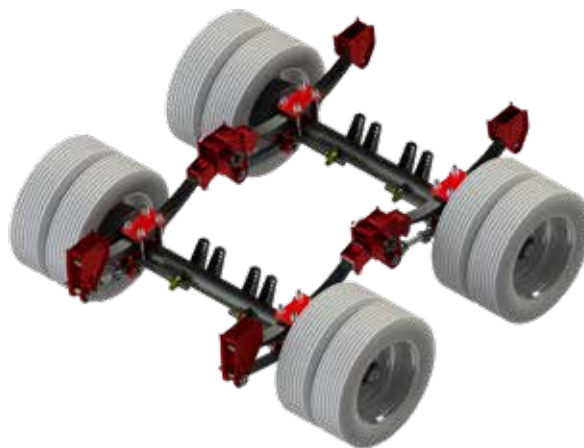
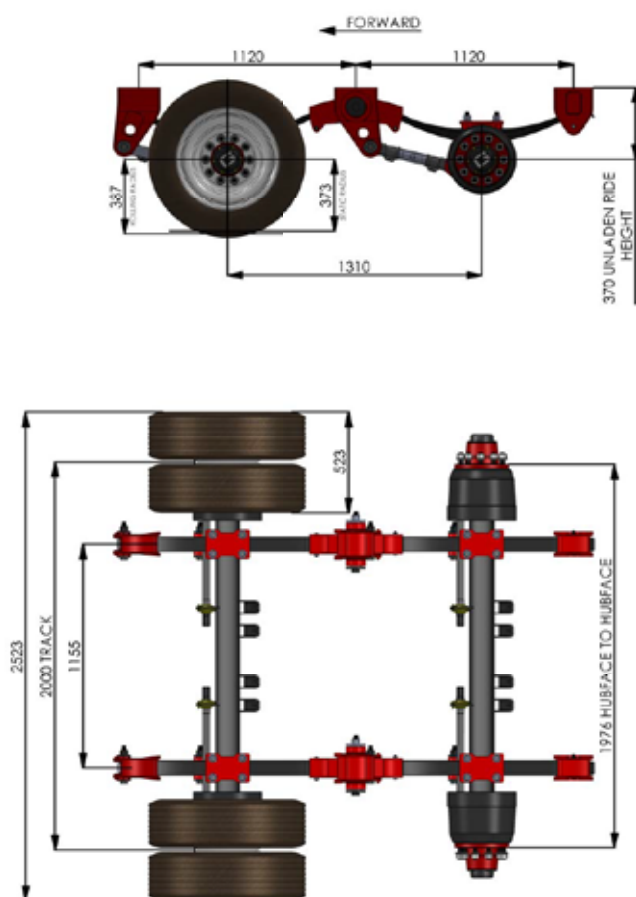
- Air Suspension 31554, 9 Tonne  
Ride Height range 350mm-395mm  
20mm Offset Ø300mm Airbag
- 60183F Axle (x3)  
100 Series 420x180mm, 2045mm Track  
610mm camshaft, metric single M22 Wheel Nut, 10 studs
- Set supplied with Type 24/30 Brake Chambers
- Automatic Slack Adjusters
- Axle seat welded to beam and clamp group torqued up
- Tyres Shown 385/65 R22.5



\*See air suspension manual for bracing and welding instructions.

# Mechanical Suspension Tandem Axle Overslung 310x190 Brake

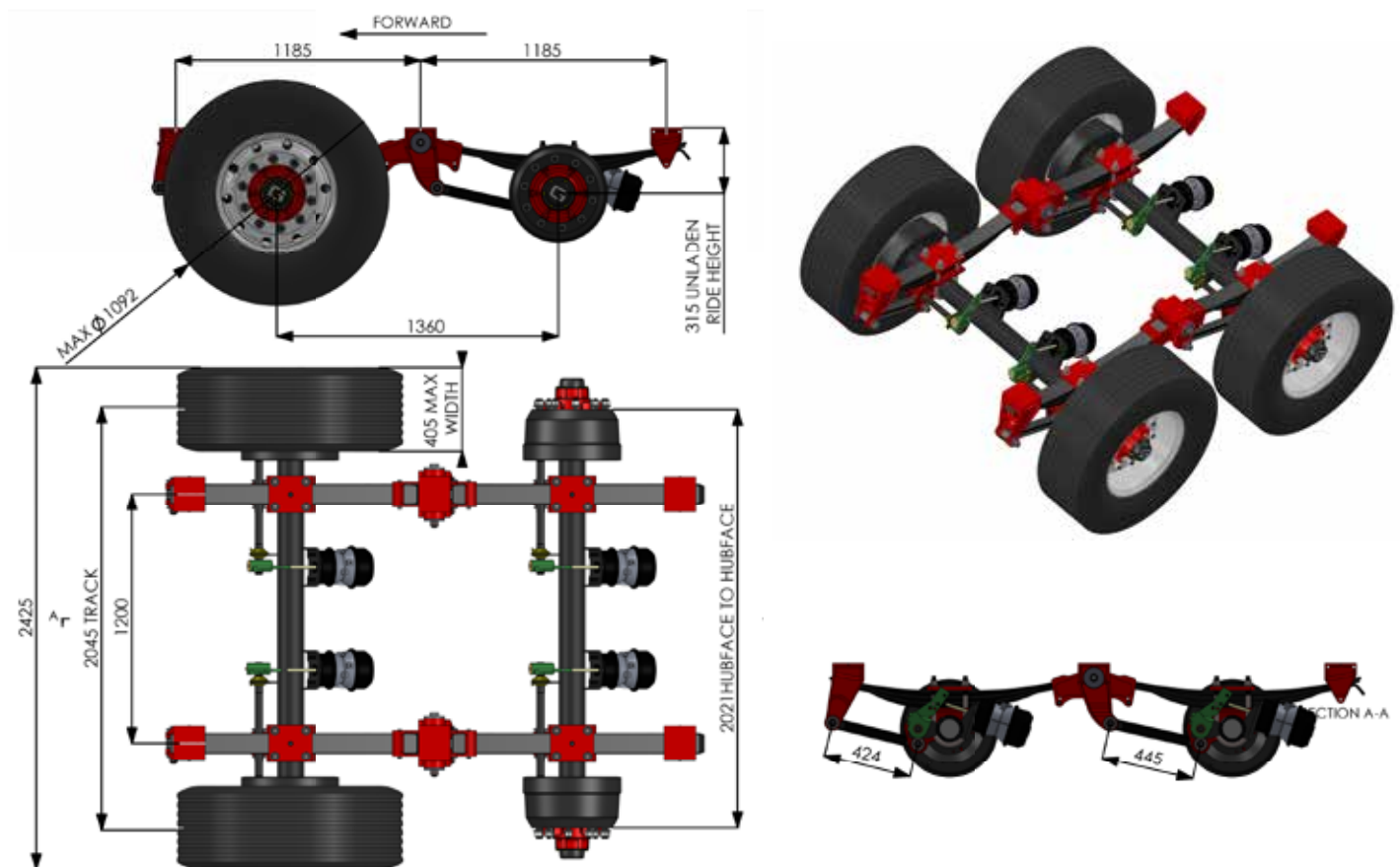
- SUSP B 20512 305  
Tandem 1310 spread 3 leaf overslung  
Unladen ride height 340mm
- 60364F Axle (x2)  
300 Series 310x190mm brake, 2000mm track  
610mm camshaft, metric twin M22, 10 studs
- Tandem suspension rated to 22000kg.
- Set supplied fitted with manual straight slacks (automatic slacks optional) with a range of brake chambers.
- Axle seats welded to axle, spring fitted, u-bolts torqued.
- Components (except hangers) can be supplied 2 pack painted
- Axles can be supplied with iso or din nuts.



\*See mechanical suspension manual for bracing and welding instructions.

# Mechanical Suspension Tandem Axle 420x180 Brake

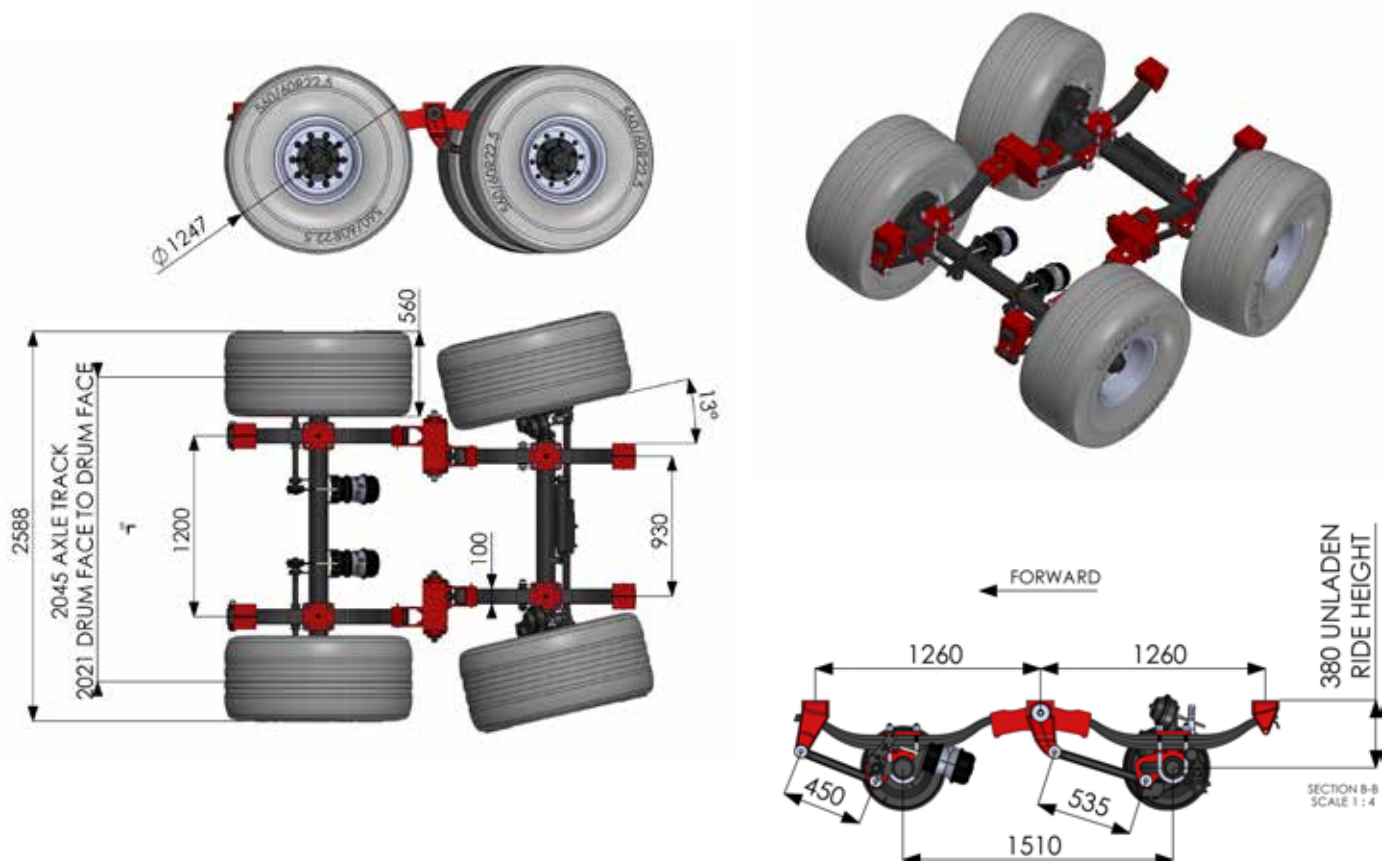
- Suspension 97632  
Tandem 1360mm Spread 3 Leaf 100mm Wide Overslung  
Unladen Ride Height 315mm
- 60183 Axles  
2045mm Track, 420x180 Brake  
618mm camshaft, metric single M22 Wheel Nut, 10 studs
- Tandem Suspension rated to 24000kg
- Type 24/30 Chambers and Automatic Slacks Shown
- Axles can be supplied with ISO, DIN Nuts, Twin Wheels
- Other Tracks, Camshaft lengths, suspension centres available
- Tyres Shown 385/65 R22.5
- Can be supplied loose or fully welded and painted.



\*See mechanical suspension manual for bracing and welding instructions.

# Mechanical Suspension Tandem Axle 420x180 Brake Offset / Steer

- Suspension 97674  
Tandem 1510mm Spread 3 Leaf 100mm Wide Overslung  
Unladen Ride Height 380mm
- 60183 Axles  
2045mm Track, 420x180 Brake  
618mm camshaft, metric single M22 Wheel Nut, 10 studs
- 60183AS2 Steer Axle Hydraulic Lock
- Tandem Suspension rated to 26000kg
- Axle rating dependent on speed and suspension centres
- Type 24/30 & Type 24 Chambers and Automatic Slacks Shown
- Tyres Shown 560/60 R22.5
- Other Tracks, Camshaft lengths, suspension centres available
- Can be supplied loose or fully welded and painted.



\*See mechanical suspension manual for bracing and welding instructions.

## Mechanical Suspension Tandem Axle Dual Steer / 150SQ

- Maintain their current 1500mm axle spread used for tyre clearance.
- Maintain their overslung suspension setup with unladen ride height approximately 300mm.
- Provide solution with higher capacity and stiffness than the current 11000kg rated 76mm suspension.
- Increase the carrying capacity of the axle beam but have a suspension clamp group to match.
- Give steer axle locking options for future customer requirements.
- Keep the existing axle track and suspension centres on the chassis.
- Set axles for air hydraulic brake chambers and have tyre clearance on steer axle



New set up has 100mm wide 3 leaf springs with 1500mm axle spread keeping the customers chassis requirements but increasing the suspension capacity to 13000Kg per axle.

Steer axle has increased capacity as well as a larger hydraulic ram which can be piped for hydraulic locking or controlled steering.



Fixed and steer axle uses 150mm square beam with higher carrying capacity and overhang. Matching suspension clamp group with unladen ride height at 315mm.

Axle and suspension set fully mounted and checked for tyre and brake chamber clearance.



# Bogies

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[www.granningaxles.ie](http://www.granningaxles.ie)





## Product Information

Granning Axles & Suspensions was founded 40 years ago and are the sole axle manufacturer in Ireland and the UK. This gives our team a unique insight and understanding into our customers' requirements and specialises in a fully rounded design and engineered solution for your Plug and Play bogie requirements.

Our experienced sales and engineering departments work closely with you, our customer, to fully understand your machine application and the industry it operates in. Together, we ensure that we deliver a designed solution to best suit your requirements.

Our technical team will work to ensure your vehicle is designed to operate effectively in your desired market. We will also work alongside your team to ensure the finished vehicle meets market regulations etc.

Granning Axles and Suspensions will provide you with a full bespoke sub-chassis that is ready to plug-and-play.

- Pre-prepared for your Type Approval test
- Brake Calculations
- Turning Circle Calculations

Our Bogie solutions can be found in a wide range of markets including Trucks and Trailers, Mining and Quarrying Industries, Asphalt and Bitumen Industries; thus giving us a great knowledge base to work from.

**We have an experienced engineering team ready to start on your bogie now...**

For further information please see request form in dedicated section of this catalogue.

Alternatively contact us at [sales@granningaxles.ie](mailto:sales@granningaxles.ie)



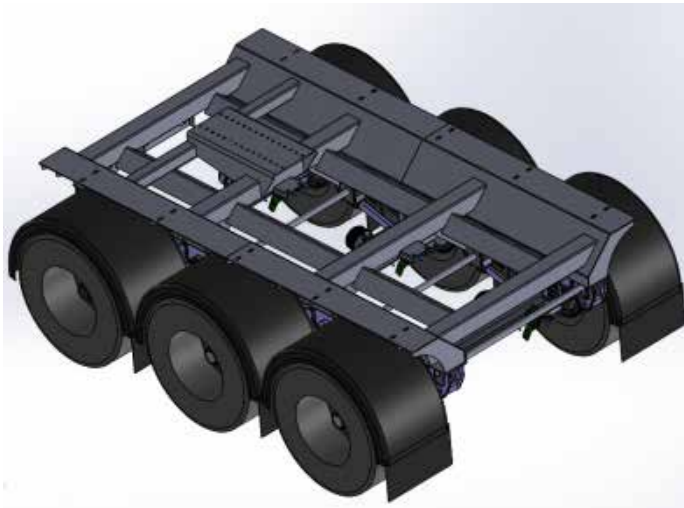
# Bogie Case Study 1

## Customer requirements

- 13tonne capacity axle and suspension set up.
- Tri axle fixed axle set up with Overslung mechanical suspension.
- Supplied with mudwings and mudflaps.
- Frame to have protection plates to prevent rocks damaging valves.
- Additional frame brackets for customer machine equipment.

## Bogie Specification

- 2350mm track 150mm square axles.
- Overslung multileaf suspension.
- Bogie supplied with valves and fully piped.
- Supplied with high capacity 30/30 chambers.
- Onsite IVA inspection done



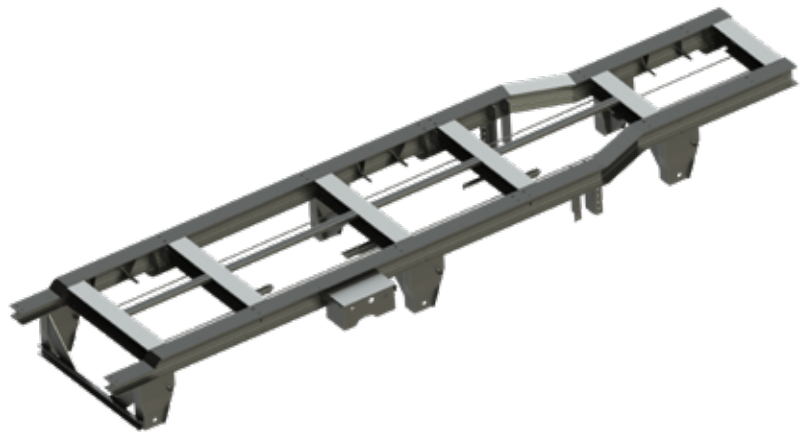
## Bogie Case Study 2

### Customer requirements

- Bolt on chassis with cranked frame to give maximum steer axle clearance
- Lockable steer axle through reverse light, speed setting and manual button
- Compliant with Turning circle requirements
- Frame to have protection plates to prevent rocks damaging valves.
- Air suspension straps to allow bogie to be raised off the ground without damaging airbags

### Bogie Specification

- Quad axle air suspension with self steer rear axle
- Duomatic couplings for northern Europe use
- Mudwings and antispray flaps with customers logo
- Extra chassis clearance for parking brakes on steer axle
- EBS brake kit
- Bogie supplied with jacking legs



## Bogie Case Study 3

### Customer requirements

- Bolt on chassis as light as possible
- Mechanical suspension
- Options for ABS and non ABS
- Customer requires constant stock of bogie for short turnaround
- Option for mechanical handbrake to be supplied loose

### Bogie Specification

- Tandem mechanical suspension 3 leaf overslung
- Low loader axles
- Standard mudwings, slack adjusters and handbrake
- Standard loose kit which can be used on multiple bogies



## Bogie Case Study 4

### Customer requirements

- Command hydraulic steering on all axles
- Remote control steering from outside of driver cab
- European approved rear underun crash bar
- Complete bogie and machine light kit
- European approved turning circle
- Air suspension raise lower valve to allow easy bogie fitment

### Bogie Specification

- Tri axle low loader air suspension
- Hydraulic command steering
- Light kit, markers, wheel chock and holders fitted
- EBS brake kit
- 30mm locking plate receivers fitted to bogie frame





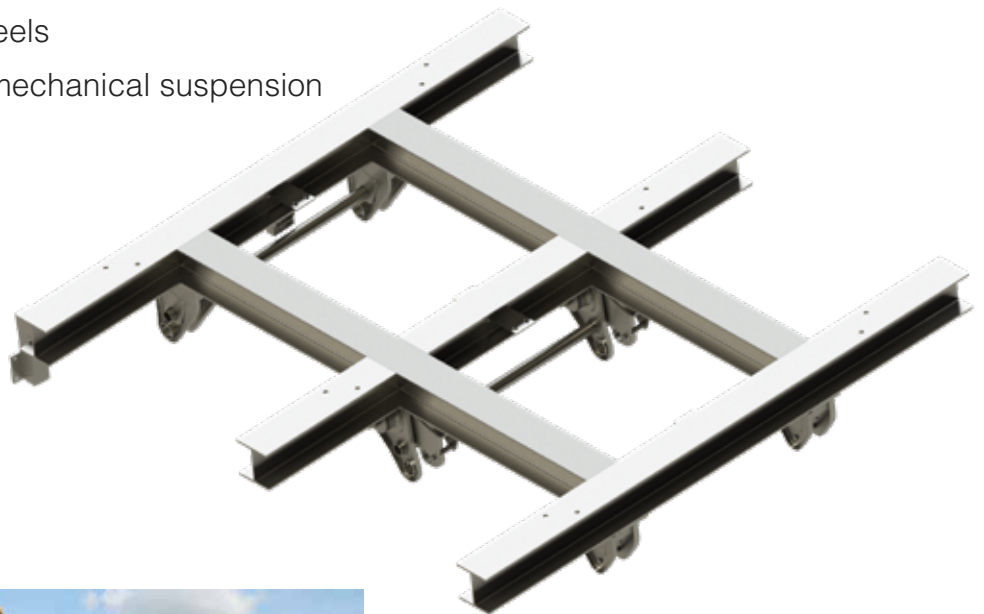
## Bogie Case Study 5

### Customer requirements

- I beam chassis design which can be bolted in place
- Mechanical handbrake
- Mechanical suspension
- Loose kit supplied
- Landing legs supplied

### Bogie Specification

- 15m loose kit supplied
- Standard parts used where possible
- 11R 22.5 Twin wheels
- Overslung 4 leaf mechanical suspension





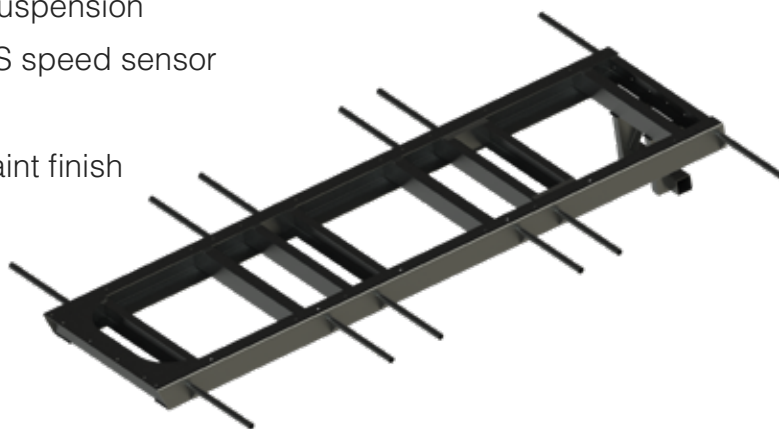
## Bogie Case Study 6

### Customer requirements

- Disc brake axles
- Aluminium Wheel rims
- Galvanised chassis
- EBS brake kit
- Light frame
- Air suspension
- Rear steer axle

### Bogie Specification

- 2045mm Disc brake axle with Unipac bearing
- 385 65 R22.5 Aluminum wheels
- 380mm Weweler single leaf Air Suspension
- Self steer rear axle locked by EBS speed sensor
- Wabco EBS brake kit
- Galvanised frame with custom paint finish



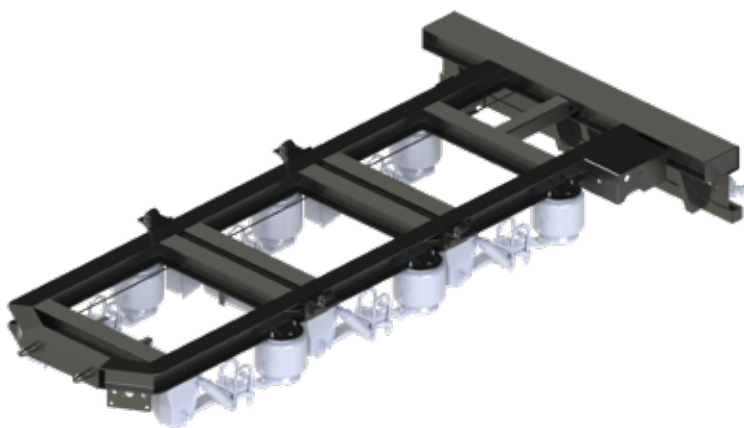
## Bogie Case Study 7

### Customer requirements

- Easy to fit and remove bogie
- Vehicle to go for individual vehicle approval
- Compliant with Turning circle requirements
- Light kit on bogie and machine to be detachable to allow bogie to be rolled out

### Bogie Specification

- Tri axle air suspension, allows machine to be raised up and machine prop legs dropped
- TUV axles with rear self steer axle
- European spec light kit with quick release connections allowing lights on machine and bogie to be separate.
- Twist lock connection and front bayonet pins to allow quick bogie connection
- TUV compliant rear crash bar
- Brake reaction test done on site
- Turning circle calculation done
- Onsite IVA inspection done





# Approval Services

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Vehicle  
Certification  
Agency



Department  
for Transport



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# Vehicle Type Approvals

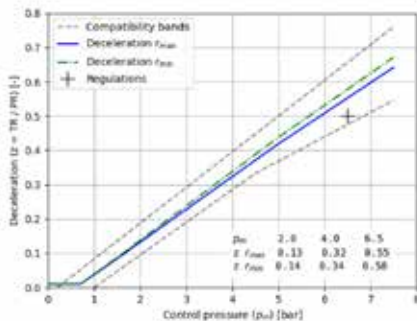
We have worked with several companies over the years on Vehicle Type Approvals. We can help with setting up the initial contact with the approval authorities. We can then help with the paperwork needed for the approval such as:

- **Vehicle brake calculation.**
- **Turning circle calculations.**
- **Physical brake reaction time test.**
- **Light kits matching the required regulations.**

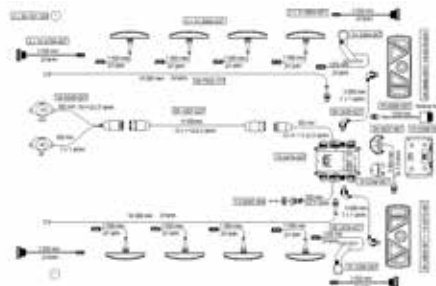


For bogies we provide we can supply the axle type approval documents, RUPD approval, suspension and axle drawings, brake kit diagrams and overall bogie dimension drawings

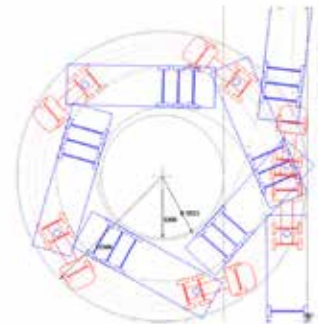
### Brake Calculations



### Light Kits



### Turning Circle Calculations



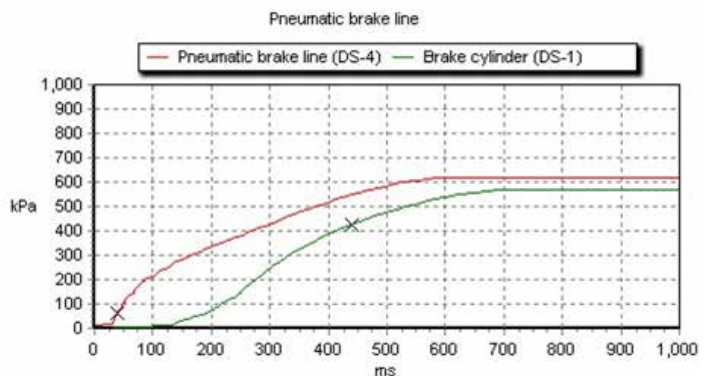
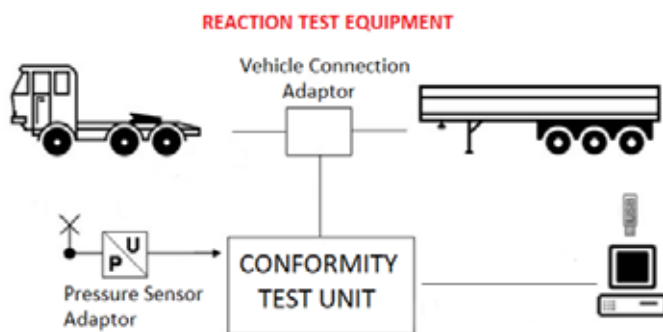
# Brake Reaction Testing

Type approved vehicles require a brake reaction test. The brake reaction test ensures the time taken for the brakes on the trailing vehicle to be applied, after the driver has applied the brakes, is within European regulations. Slow brake reaction times increases the distance a vehicle travels before coming to a stop. Common causes of poor reaction time are:

- **Incorrect brake pipe diameters**
- **Location of valves on the trailer**
- **Distance between valves**
- **Incorrect air tank reservoir size**
- **Too many elbow fittings in piping circuit, excessively long air pipes.**



Granning can organise and assist in performing brake reaction time tests on vehicles to comply with European brake regulations.



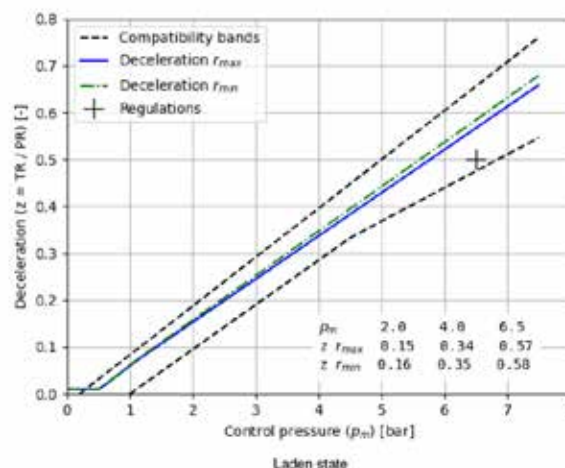


## Brake Calculations

Type approved vehicles require a brake calculation. Even agricultural vehicles need to be checked that they meet required brake performance for the load and speed they travel.

Granning can provide customers with brake calculations and advice on how to achieve the required brake performance. Other brake calculation features Granning can provide are:

- **Brake calculations for service chambers, parking chambers and dual air/hydraulic chambers**
- **EBS files to upload vehicle brake information to vehicles**
- **Load Sensing valve setting**
- **Brake calculation options with tyre ranges, variable length vehicles and brake regulation options.**



# Turn Circle Calculations

Type approved vehicles need to conform to European Turning Circle Regulations. Even if a vehicle is not going for Type approval the turning circle characteristics of a new vehicle design may need to be understood.

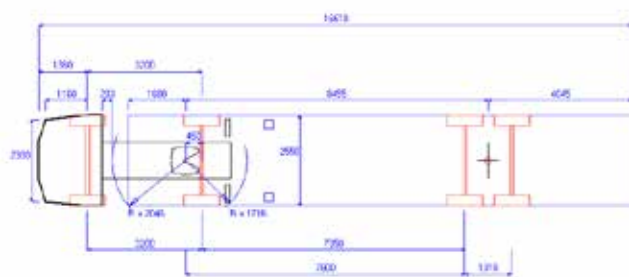
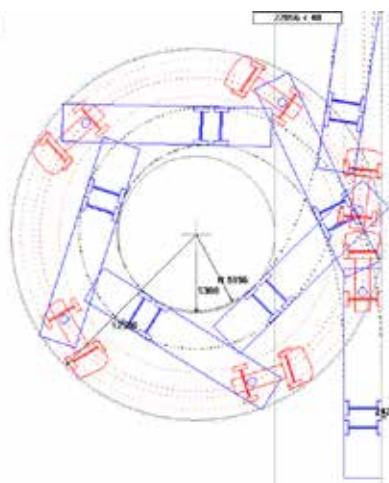
Granning can provide vehicle turning circle calculations which can provide vehicle designers with information such as:

- The effect of adding additional axles to vehicle.
- The effect of adding a steering axle to a vehicle.
- How moving the axle bogie forward or back changes the turning circle.
- The effect of different towing trucks on turning circles.
- The rear outswing of the machine.

Vehicle Length	Turn	Outside Radius	Inside Radius	Width Road Space	Out Swing
<b>up to 17.5m</b>	360 deg	12.5m	5.3m	7.2m	0.8m
<b>17.5m to 20m</b>	120 deg	12.5m	5.3m	7.2m	1.1m
<b>20m to 23m</b>	120 deg	14m	6.5m	7.5m	1.4m
<b>23m to 25m</b>	120 deg	14m	6m	8.0m	1.4m
<b>25m to 27m</b>	120 deg	14m	5m	9.0m	1.4m

VOLVO 1112 621 82WC High tractor rear set point - 3200

R out = 12500 mm  
R in = 5150 mm  
closed width = 2734 mm  
Rear Outswing = 242 mm



## Engineering Services

Accredited with ISO certification ISO 9001:2015, we take pride in offering accurate, cost effective, and professional services. Our combined wealth of experience and knowledge form an accomplished team capable of offering you the following:

- Truck Conversion and chassis-building Type Approval Services
- Commercial Trailer Type Approval Services for IVA and EWVTA
- Agricultural Trailer Type Approval Services for IVA and EWVTA
- Specialist Plant Type Approval Services for IVA and EWVTA
- Full CAD design services, including 3D modelling
- Turning circle calculations and models
- Vehicle Braking Calculations and Analysis
- Vehicle Load Calculations and Analysis
- WABCO and Knorr-Bremse trailer EBS commissioning agents
- WABCO ECAS commissioning agents
- Product Development and testing services



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Road Safety Authority

# Conversions

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## Truck Mid Axle Installations

Axles mounted in front of the drive axle to form a close-coupled bogie are termed 'Mid Axles' or 'Pushers'. They have a 'Drop Centre' in the tube to allow clearance to the propeller shaft. Granning offer a wide range of suspensions and axles for this purpose in order to ensure that the additional equipment compliments the original vehicle specification.

Granning can supply Disc or Drum braked axles to carry tyre sizes from 17.5" to 22.5" and are available for twin wheel, single offset wheel and single centre knave configuration. The RM (Retro Mid) series of suspensions offers compact space saving design with twin lift assemblies enclosed for maximum protection. These suspensions are compact in order to retain maximum fuel capacity, and are durable and hard working. The suspension operating pressure can be adjusted by clever installation to match that of the drive axle thus often eliminating the necessity to fit reduction valves to perform this task. Popular applications are Tractor unit mid axle taking the tractor from an 18000kg gross vehicle weight to a 23000kg tractor that has the three axle configuration required to operate at 44000kg gross train weight.

The axle is able to lifted when the vehicle is unladen thus saving tyre wear and allowing the drive axle to carry more mass giving greater traction. A number of Car Transporter Drawbars employ Granning 600 series mid axles in order to fit space saving 17.5" tyres which don't encroach into the bodywork yet carry sufficient load to prevent the front axle overloading. This arrangement is also employed on many municipal and refuse vehicles, which again have restrictive space for axle mounting owing to bodywork, lifts and cranes etc.



Mid axle showing Drop Centre Tube to avoid prop shaft



Mid axle installation, axle lifted.



## Truck Tag Axle Installations

An additional axle mounted behind the existing vehicle Drive axle to form a close-coupled bogie is termed a Tag or Trailing Axle.

Granning offer a wide range of suspensions and axles for this purpose in order to ensure that the additional equipment compliments the original vehicle specification.

Disc and Drum brake axles to carry tyre sizes from 17.5" to 22.5" are available for twin wheel and for single centre knave and offset wheel configurations.

Our RT (Retro Tag) range of suspensions are usually employed for this style of installation, they offer a practical solution to the vehicle converter for mounting the axle in this position but with twin lift built in saving assembly time and expense. Twin wheeled installations usually form an equally plated bogie where the mass on the Tag axle is the same as that carried by the Drive Axle, Wide track single wheeled configurations are available that offer maximum stability when an asymmetric bogie is required by the operator. These suspensions offer high stability and durability and variety of lifting methods are available should the standard twin lift be unsuitable for your application.



Single Wheel Tag Axle



Twin Wheel Tag Axle



## Drive Axle Air Suspensions

Granning have developed many drive axle air suspensions for different vehicles to replace the original mechanically sprung suspension. Air suspension is 'Road Friendly' and Load Friendly giving greater protection to loads and causing less damage to the road surface. Suspensions have been fitted to most sizes of vehicles from 3500kg gross mass to 18,000kg. Air suspension offers constant ride height, superior ride and handling and can be utilised to raise and lower the chassis to assist loading and unloading, ECAS (Electronically Controlled Air Suspension) can be employed to control this. Giving that greater protection to the load, 'Road Friendly' suspension is mandatory in legislation to operate vehicles at particular capacities.

Our drive air suspensions come in two main types, PDL (Primary Drive – Light) and PDH (Primary Drive – Heavy). The PDH suspension can be plated up to 11,500kg, and will fit the majority of 17,000kg & 18,000kg trucks and tractor units.

Our large range of PDL kits are designed for vehicles with a drive axle mass of 1200kg to 6000kg.



Drive axle air suspension

## Electronic Braking Conversions

Granning have always been at the forefront of Type Approval for additional axle conversions to Type Approved Vehicles.

Since the introduction of Electronic Brake control on commercial vehicle chassis equipped with disc brakes, our Engineering team have been working closely with the vehicle manufacturers and the UK Driver and Vehicle Standards Agency (DVSA) – Department for Transport to integrate additional axle brakes into the original system.

A declaration from the vehicle manufacturer has to be presented to the DVSA, to satisfy them that the conversion would not adversely effect the operation of the braking system before they will issue plates for a vehicle.

Recently vehicle manufacturers have been allowing less conversion options for their newer chassis due to the complexity of the EBS systems and its integration into the whole truck electronics.

Granning has developed a solution in conjunction with the EBS braking system manufacturers, and under the oversight of the Department for Transport and DVSA, to fit an independent EBS system for the additional axle. Allowing the possibility of converting any EBS truck without the need to involve the chassis manufacturer. This system was fully tested and approved at the MIRA testing grounds, to satisfy all requirements set by DVSA and DfT with regard to EBS conversions.



Independent EBS system fitted to truck additional axle

## Type Approval Services

Modern commercial vehicles must comply with many EC Directives that form the basis of the vehicle Type Approval. Altering or converting a chassis will impact on this approval and the most critical are the braking directives. Granning pioneered the installation of additional axles to trailers and trucks/tractors in the early 1980's. Since then we have developed considerable expertise, and a vast library of conversion Type Approvals in order to satisfy UK National Type Approval requirements ensuring that the necessary regulations are adhered to and that the completed vehicle will be suitable for the intended purpose

We have some of the very latest technology for recording vehicle-braking performance and have written our own brake performance analysis computer software in order to enable us to remain at the very forefront in this area, when re-approval of the braking system is required as a result of a conversion.

### Type Approval for Vehicle Conversions

We have an excellent relationship with the UK Driver and Vehicle Standards Agency (DVSA), many Vehicle Manufacturers, Chassis Converters and Trailer Manufacturers and are widely respected in this field. We offer our expert Type Approval Services for

- Additional Axle Conversions
- Wheelbase alteration brake and drawbar calculation
- Chassis Re-Plating
- EBS truck conversions
- Trailer Brake Model Reports
- Trailer notifiable alterations
- Trailer brake calculations
- Trailer conversions
- Vehicle & Trailer IVA Applications





## Case Study 1

### Scania 6x2 Artic to 8x2 Artic or Rigid

Has been most common conversion for a number of years, removing mid axle and fitting tag axle. In order to conform to DVSA rules on conversions to vehicles registered post Oct 2014 vehicle was converted and taken to VCA for them to conduct tests and produce a brake model report covering as many options as possible. All control equipment for original rear bogie carried onto new rear bogie, independent EBS modulator fitted on second steer axle. The same configuration had already been proved by vehicles registered before Oct 14.



## Case Study 2

### Caravan Transporter

Made more popular following 2020 lockdown's low height chassis fitted with Granning 600 Series disc braked tag axle for 19.5" tyres in order to allow low height full length body enabling larger caravans to be easily loaded, transported and unloaded. Independent EBS modulator fitted to tag axle brakes, programmed by Granning.





## Case Study 3

### PDL – Rear Axle Air Suspension for trucks 5000kg to 7500kg GVM

Vehicle manufacturers generally do not offer air suspension on vehicles in this mass range. Granning have air suspension that will fit most vehicles in this class. Popular models are Isuzu NQR, Mitsubishi Canter and Iveco Daily. The air suspension provides a constant ride height whether laden or unladen. Protection for the load

Carried, often these vehicles are used to transport fine art and antiques. ECAS (Electronically Controlled Air Suspension) is an option in order to assist mating the rear of the vehicle with a loading ramp, or to make access to the load area easier.





## Case Study 4

### Disc Braked mid axle conversion

Disc brake lifting mid axle for Single 22.5" tyres has been one of the more popular conversions over the last 30 or so years. Formed drop centre axle tube allows clearance from propeller shaft and offers maximum ground clearance when the axle is lifted. Offering a well proven solution and many years of reliable service.



## Case Study 5

### Tridem Rear Bogie

Popular in Ireland and in UK for volumetric cement mixers and recycling vehicles. Additional axle can either be lifting Mid axle, or lifting, or self-steering tag axle depending on original vehicle configuration and customers' requirements. The result is a 24000kg rear bogie to increase the payload of your 6x2/4 or 8x2/4 that will meet your local regulations allowing a vehicle configuration that manufacturers cannot supply.

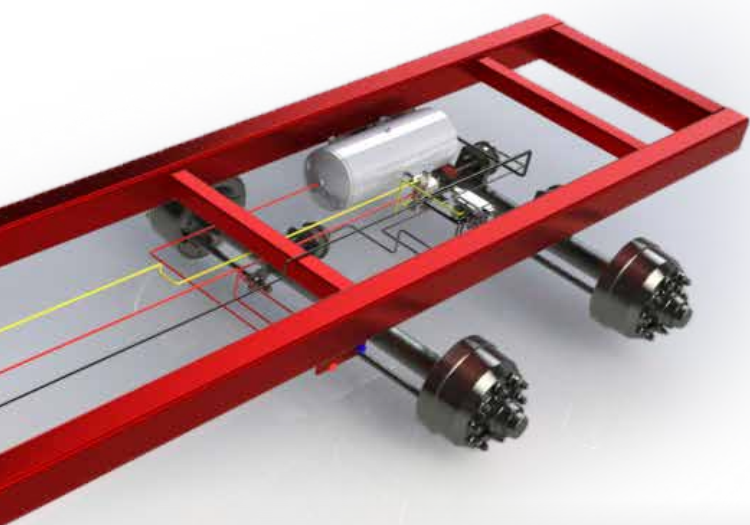


*check our website for FAQ section...*



# Braking Systems

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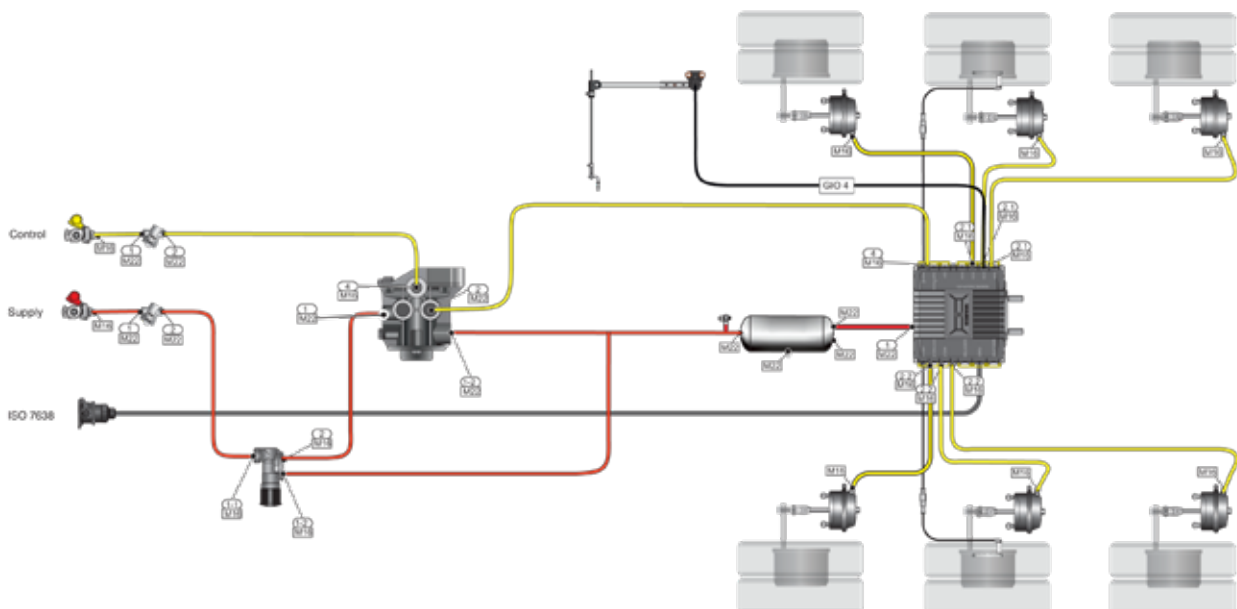
## Brake Kits

Granning Axles and Suspensions stock an array of brake kits available for purchase. Each brake kit comes supplied with an air reservoir, valves and fittings, piping, and full piping schematics. We can provide brake kits for the following applications:

- 12 Volt & 24 Volt EBS Systems
- 12 Volt & 24 Volt ABS Systems
- Load Sensing solutions
- Lift Axle Control
- Air Suspension Control Solutions
- Steer Axle Locking Control

Our engineering department can also provide brake calculations to accompany each brake kit. A number of input parameters are required in order to perform a complete brake calculation. See Request Form on page 108 for more info.

Additionally, we can provide mounting brackets for the valves, air reservoir etc. within the brake kit. We also stock optional extras such as: red and yellow suzies, palm and C couplings, manual and auto slacks, service and parking brake chambers etc.



## Brake Kits

Part Number	EBS-12V ABS-24V ABS – None	Air Mechanical No Suspension	Service chamber, Parking chambers, Hydraulic chambers	Air LSV Mechanical LSV Reduction Valve	No.of Axles	Steer Axle
<b>11553S</b>	None	Mechanical	Air/Hydraulic	Mechanical LSV	2	None
<b>99003</b>	Wabco EBS	Air	Parking Chambers	EBS	3	None
<b>99004</b>	None	Mechanical	Service Chambers	Mechanical LSV	3	None
<b>99010</b>	12V ABS	Mechanical	Service Chambers	None	1	None
<b>99021</b>	None	Mechanical	Service Chambers	None	2	None
<b>99026</b>	Wabco EBS	Air	Parking Chambers	EBS	3	None
<b>99037</b>	24V ABS	Mechanical	Service Chambers	None	2	None
<b>99040</b>	None	Mechanical	Service Chambers	None	2	None
<b>99048</b>	Wabco EBS	Air	Parking Chambers	EBS	4	Yes
<b>99056</b>	12V ABS	Mechanical	Service Chambers	Mechanical LSV	2	None
<b>99059</b>	None	Mechanical	Parking Chambers	Mechanical LSV	2	None
<b>99062</b>	None	Mechanical	Parking Chambers	Reduction valve	2	None
<b>99064W</b>	12V EBS	Air	Parking Chambers	EBS	3	None
<b>99065</b>	12V ABS	Mechanical	Service Chambers	Mechanical LSV	2	None
<b>99101</b>	None	Mechanical	Service Chambers	None	3	None

*Check our website for the complete list of components.*



## Parking Brake Chambers



Part Number	Chamber Size	Stroke (mm)	Air port size	Mounting bolt spec
<b>40040A</b>	24/30	75	M16x1.5	M16x1.5 120.7mm apart
<b>40048A</b>	20/30	75	M16x1.5	M16x1.5 120.7mm apart
<b>40044</b>	24/24	65	M16x1.5	M16x1.5 120.7mm apart
<b>56235W</b>	16/24	57	M16x1.5	M16x1.5 120.7mm apart
<b>40046</b>	30/30	64	M16x1.5	M16x1.5 120.7mm apart

## Service Brake Chambers



Part Number	Chamber Size	Stroke (mm)	Air port size	Mounting bolt spec
<b>30099A</b>	20	75	M16x1.5	M16x1.5 120.7mm apart
<b>40049A</b>	24	75	M16x1.5	M16x1.5 120.7mm apart
<b>30000</b>	30	75	M16x1.5	M16x1.5 120.7mm apart

## Air/Hydraulic Brake Chambers



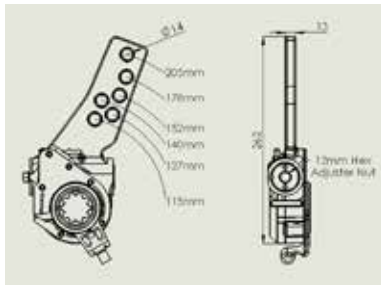
Part Number	Chamber Size	Ram Size	Stroke (mm)	Air port size	Mounting bolt spec
<b>30244A</b>	20	25	75	M16x1.5	M16x1.5 120.7mm apart
<b>30247A</b>	24	25	75	M16x1.5	M16x1.5 120.7mm apart
<b>30256A</b>	20	30	75	M16x1.5	M16x1.5 120.7mm apart
<b>30257A</b>	24	30	75	M16x1.5	M16x1.5 120.7mm apart
<b>30258A</b>	24	35	75	M16x1.5	M16x1.5 120.7mm apart

## Hydraulic Brake Ram



Part Number	Ram Size	Thrust at 100bar
<b>30242</b>	35mm	9622N
<b>30248</b>	25mm	4909N

## Automatic Slack Adjusters



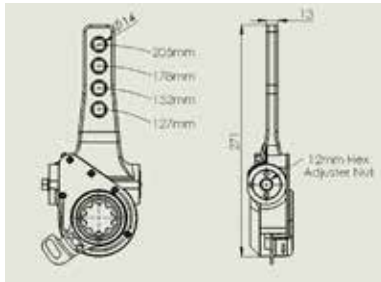
### 40068A

10 Spline

0 Offset

Used left and right side of axle

Supplied with control arms



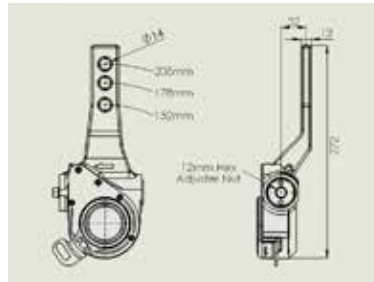
### 50218A

10 Spline

0 Offset

Used left and right side of axle

Generally used on Steer axles



### 30382

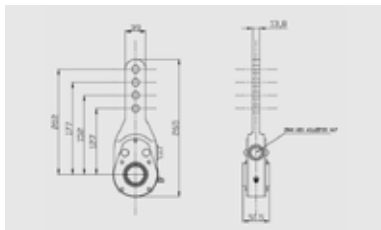
10 Spline

38mm Offset (shown)

Opposite hand side: 30383

Generally used on Steer axles

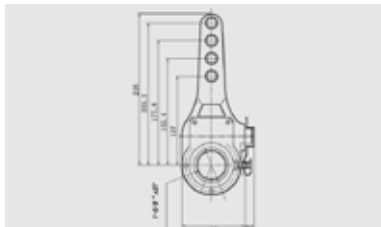
## Manual Slack Adjusters



### 30015

10 Spline

0 Offset

Can be used on fixed or  
steer axles

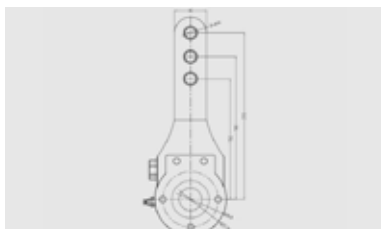
### 20044

37 Spline

0 Offset



## Agricultural Slack Adjusters

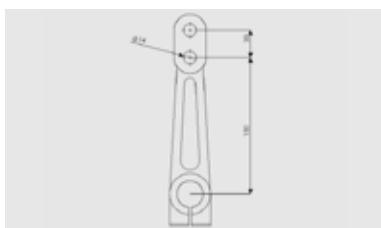


### 20095

38 Spline

0 Offset

Manual Slack

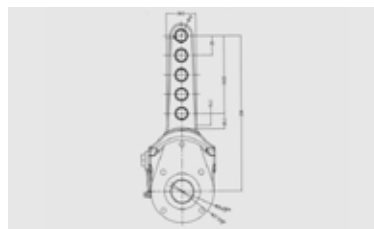


### 20094

38 Spline

0 Offset

Manual Lever



### 97606

38 Spline

0 Offset

Manual Slack

## End of line Programming

Granning has been providing 'End of Line' programming for vehicles that use EBS systems since it was first introduced to the market. We can offer this service to customers who intend to incorporate an EBS system into their vehicle(s).

Our engineering department are experienced in programming trailers that include additional functions such as:

- Axle Lift Control
- Steer Axle Locking Control
- Ride Height Control
- Traction Control
- Roll Stability

We have regular visits from the leading brake valve manufacturers to ensure our engineering department is trained on the latest braking system updates.

Granning can also provide full brake kits with valves, fittings, air reservoir, piping, and schematics to assist our customers with brake kit installation to suit any trailer setup.

Go to the 'Resource Video' section on our website to see further clarification on each individual valve, its function(s), and installation guide within the brake kit. Go to page 86 for more details.



# Spare Parts

## Aftersale Support

Serial Number Search .....	120
Support Media / Resource Channel .....	121
Axle & Suspension Spare Parts .....	122

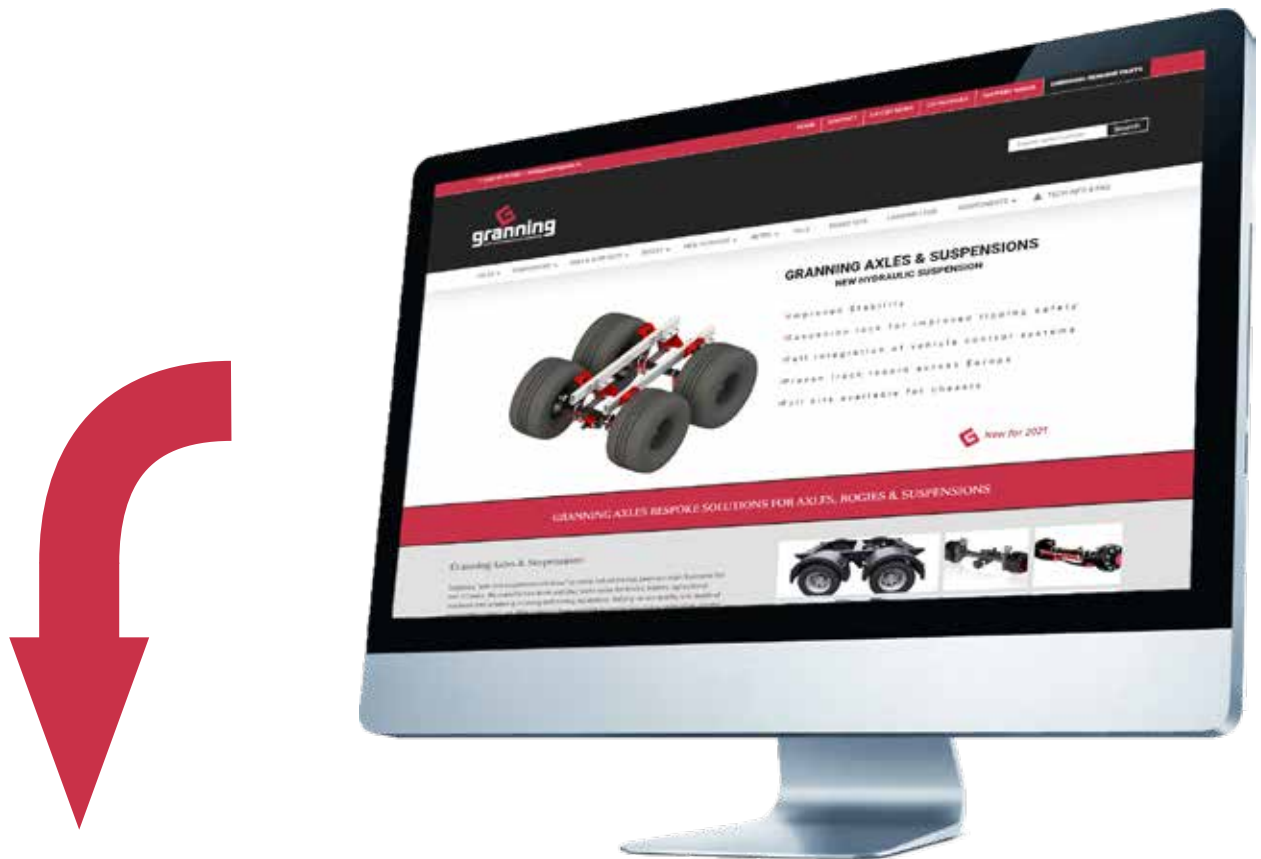


[www.granningaxles.ie](http://www.granningaxles.ie)



## Serial Number Search

Complete Spare Parts list is now available on our website. Our search function allows our customers to easily identify parts online by using Serial Number stated on your Axle or Suspension plate.



### Axle Manual

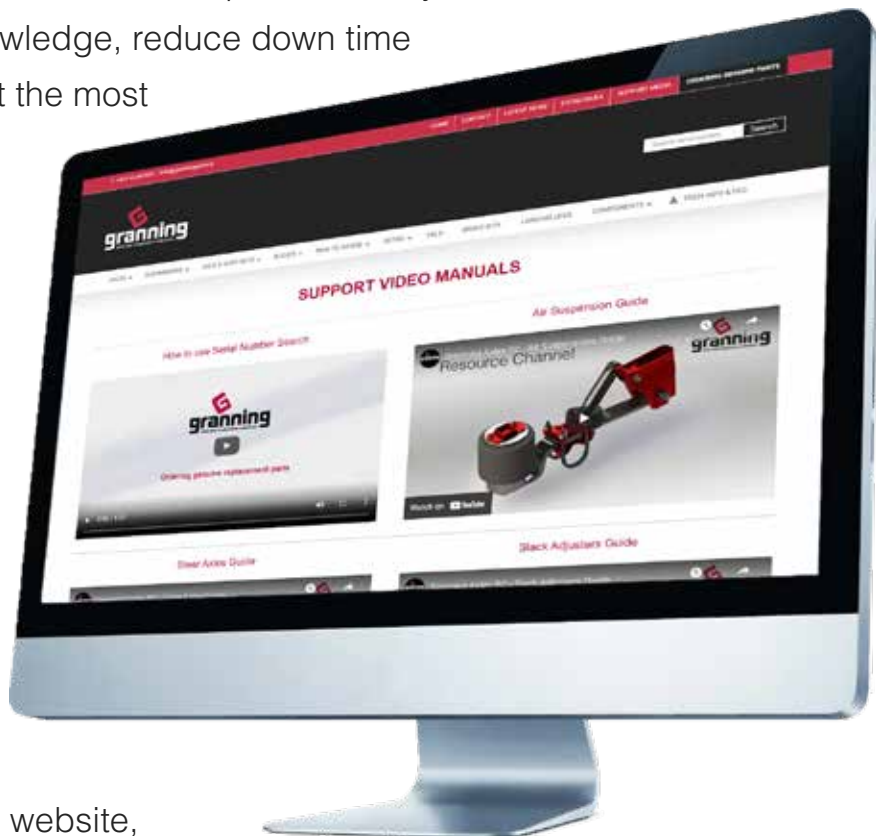


### Bill of Materials



## Support Media / Resource Channel

The Granning Support Media & Resource Channel are designed to help answer our customers frequently asked question with clear professionally shot video's. The videos are designed to improve product knowledge, reduce down time and make sure our customers get the most out of the products we provide.



Visit **Support Media page** on our website, or subscribe to our **Resource Channel** on Youtube to stay up-to-date with useful information we provide.



**Scan QR Code**  
for Youtube channel





## Granning offers a wide range of Spare Parts for all our Axles & Suspensions.

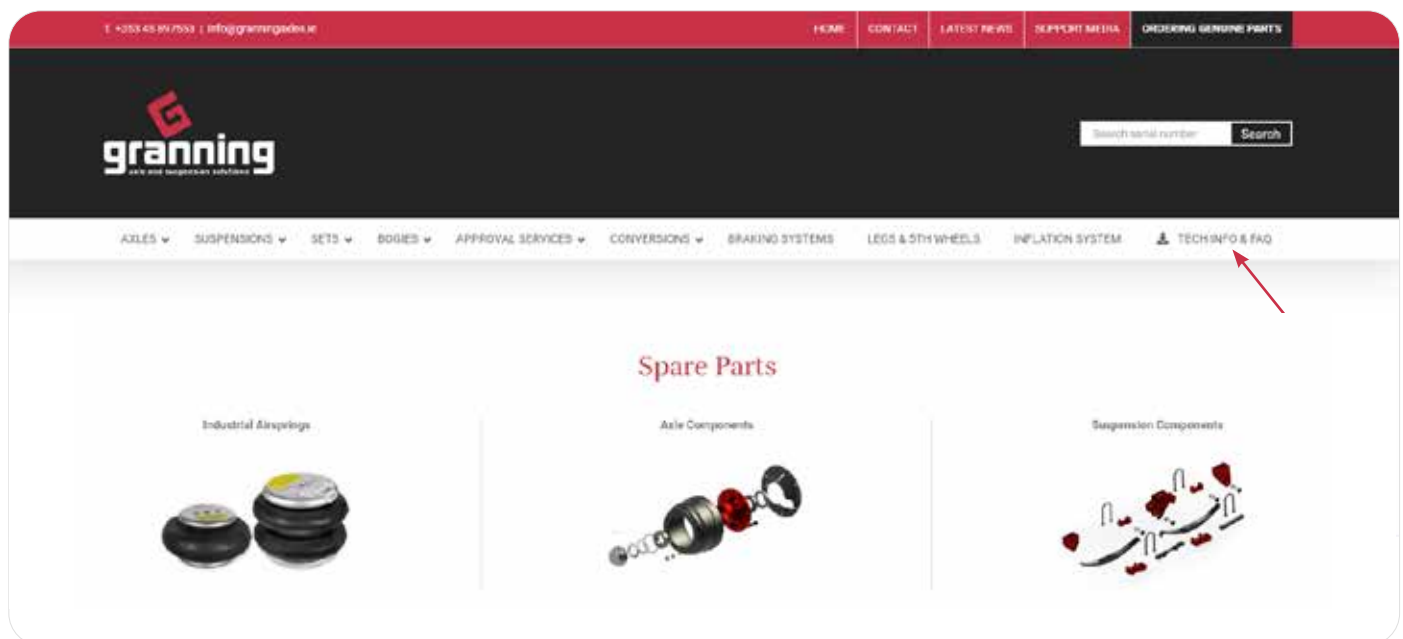
Visit **Spare Parts** Section on our web for a full range available:

### Axle Components

- Wheel Hubs
- Brake Drums
- Brake Shoes
- Hub & Drum Assembly
- Camshafts

### Suspension Components

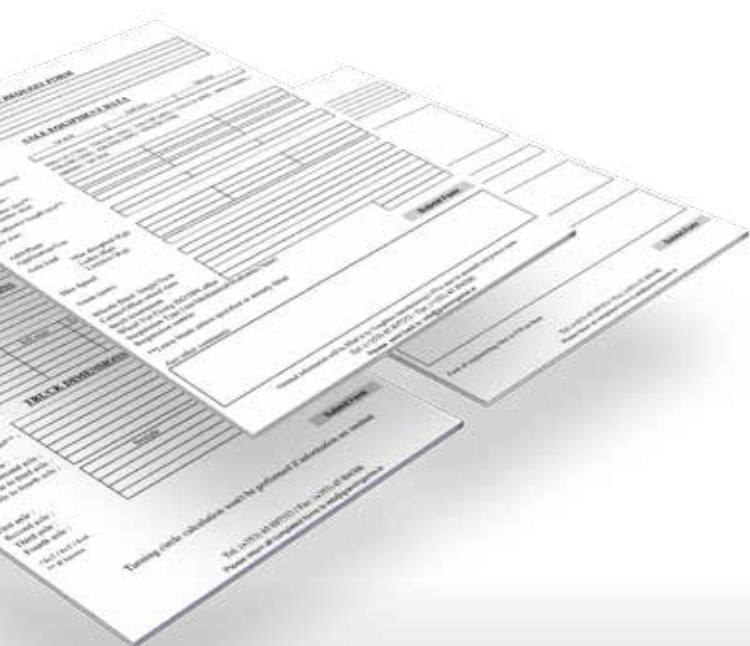
- Balance Beam
- Torque Arm Assembly
- Leaf Springs
- Centre Hanger Pivot Bolt Assembly
- U-Bolts



# Technical Support & Forms

## Technical Information

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## Catalogue Product Information

The best axle and suspension setup to suit your vehicle depends on a number of factors. Here at Granning, we look at all your vehicle requirements to help you find the best solution. The previous pages outline some of the products available from Granning, but in order to choose the most suitable product please read through the following information. If you have any further questions please contact Granning.

### Brake Capacity

Axle brakes are dynamically tested on special test rigs to certify their performance under cold braking, hot braking, and prolonged braking. The brake certificate outlines the maximum load the axle can carry whilst still achieving effective braking performance. The Brake Certificate also includes the range of tyres that is covered under the certificate.

### Axle Beam Capacity

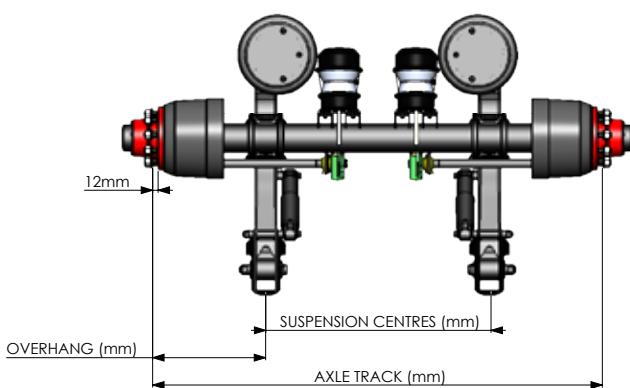
There are a number of factors which affect the maximum axle beam capacity.

**Overhang** is the distance from the centre of the tyre to the centre of the suspension clamp group, as this distance increases the axle beam capacity decreases.

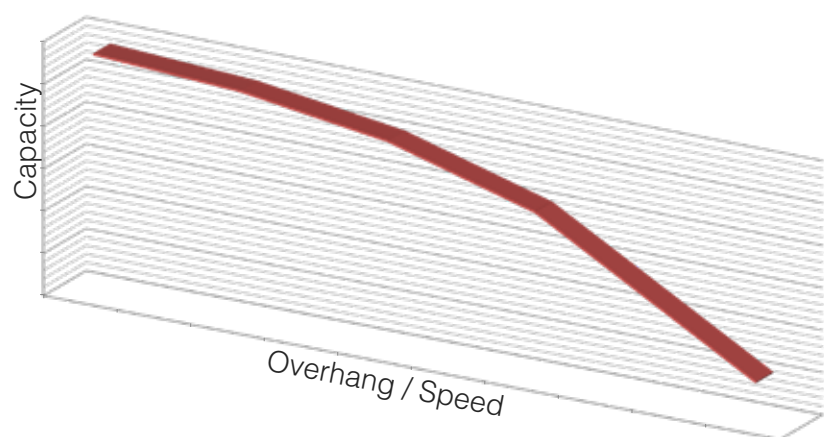
**Speed** of the vehicle affects axle beam capacity; in certain applications if the speed of the vehicle is restricted the beam capacity can be increased.

**Beam Dimensions** are another factor. Granning have a large range of axle beam types; from solid square beams to 150mm hollow square beams. We also have a range of different axle beam wall thickness  $\varnothing 127\text{mm}$  round beams, and we can help you select the best beam type for your vehicle axle load.

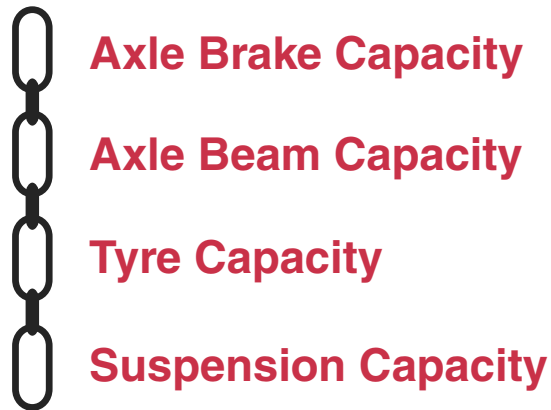
#### Overhang Explanation



#### Axle Capacity Chart



The maximum load your vehicle can carry is determined by one of the following:



**For example:**

If your axle beam is rated to 13,000Kg, your brake is tested up to 11,000Kg, your suspension is rated to 10,000Kg, and your tyres are rated to 9000kg then the maximum capacity of your setup is limited to 9000Kg.

At Granning we can provide you with the full service of: a brake calculation, drawing clearance checks, turning circle calculations, and performance calculations to ensure your axle and suspension setup meets your load requirements.

## Wheel Studs and Wheel Nuts

Granning have a wide range of different wheel stud and nut combinations. It is important to use the correct wheel nut and wheel stud combination for your application. On commercial axles the wheels are normally centred on the axles by the hub spigots and use ISO nuts. Wheel studs can be:

**MST** - Metric Single wheel Ten stud

**MTT** - Metric Twin wheel Ten Stud

**MSE** - Metric Single wheel Eight stud

**MTE** - Metric Twin wheel Eight stud

Agricultural axles can have ISO nuts but if the wheel rim is designed to be centred by the wheel nuts it must use DIN nut and cone washers.

**DST** - DIN Nut with an outer washer and stud length for single wheels

**DTT** - DIN with inner and outer washer and stud length for twin wheel

The position of the splines on the wheel studs differ depending on the drum mounting type on the axle be it internal or external. Aluminium wheel rims are generally twice the thickness of steel rims and an MST wheel stud will not work with a single aluminium wheel rim.

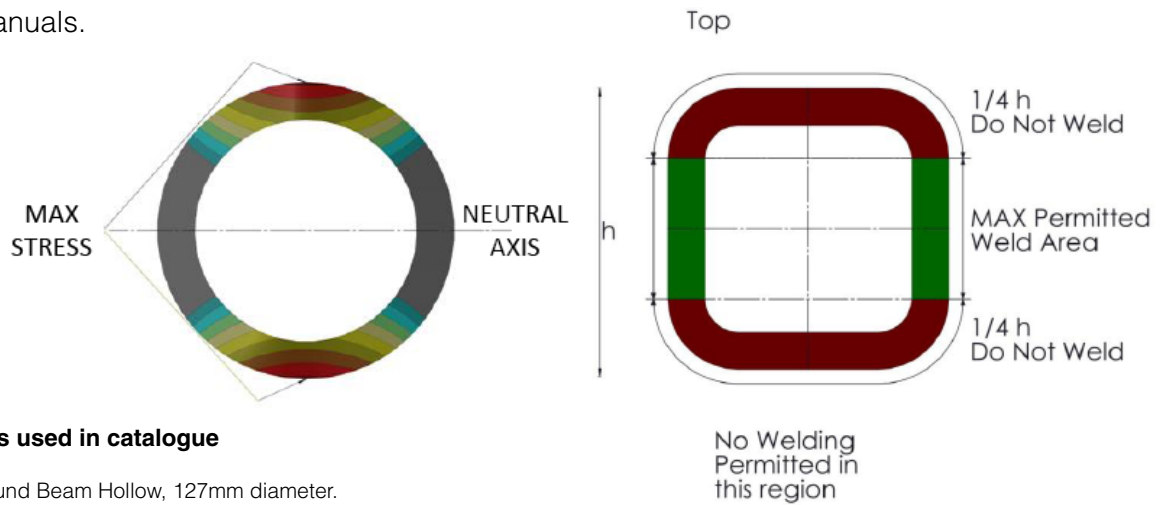
Contact Granning for any further queries.

## Axle Track

This is the length of the axle. On commercial axles it is measured 12mm out from the wheel mounting face. On agricultural axles the length of the axle is measured from the wheel mounting face.

## Axle Beam Welding

Welding is only permitted in certain areas along the axle beam. Any welding on the areas of the axle beam highlighted in red on the diagrams below will result in axle beam performance issues and possible failure. Full details can be found in the in the axle manuals. There are also important guidelines to be followed when welding mechanical and air suspensions to the axles. Further information can be found in the suspension manuals.



### Types of Axle Beams used in catalogue

- Ø 127mm Round Beam Hollow, 127mm diameter.
- 90mm Square Beam Solid, 90mm side width.
- 150mm Square Beam Hollow, 150mm side width.

## Ride Height

This is the distance from the centre of the axle beam to the top of the suspension hangers. For Mechanical Suspensions the ride height is different when the suspension is laden and un-laden. The number of leafs, spring type, and the grade of steel used in the spring all influence the deflection curves of Mechanical springs. On air suspensions, it can be important to know the ride height of the air suspension when the air is dumped for clearance checks.

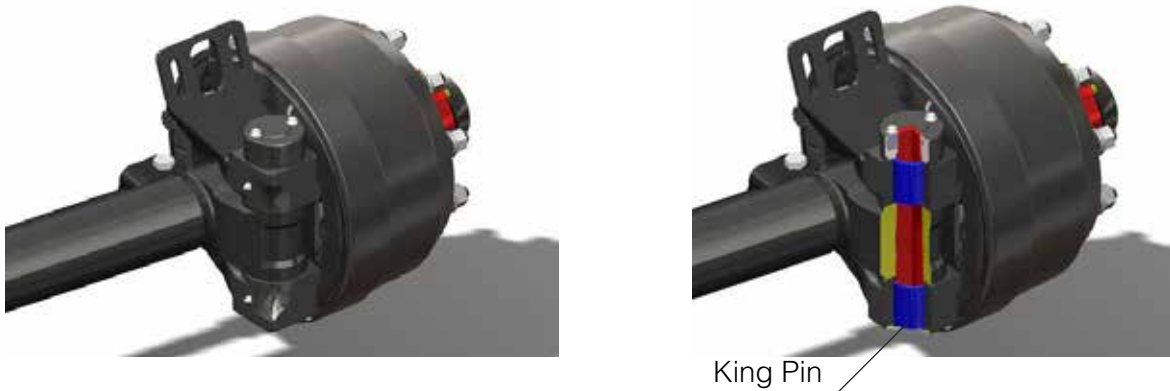


## Steer Axles

Granning has a wide range of different steer axle options available. We have developed a diverse range of steer axle models to meet our customers' requirements. The list of variations available on our steer axle models include:

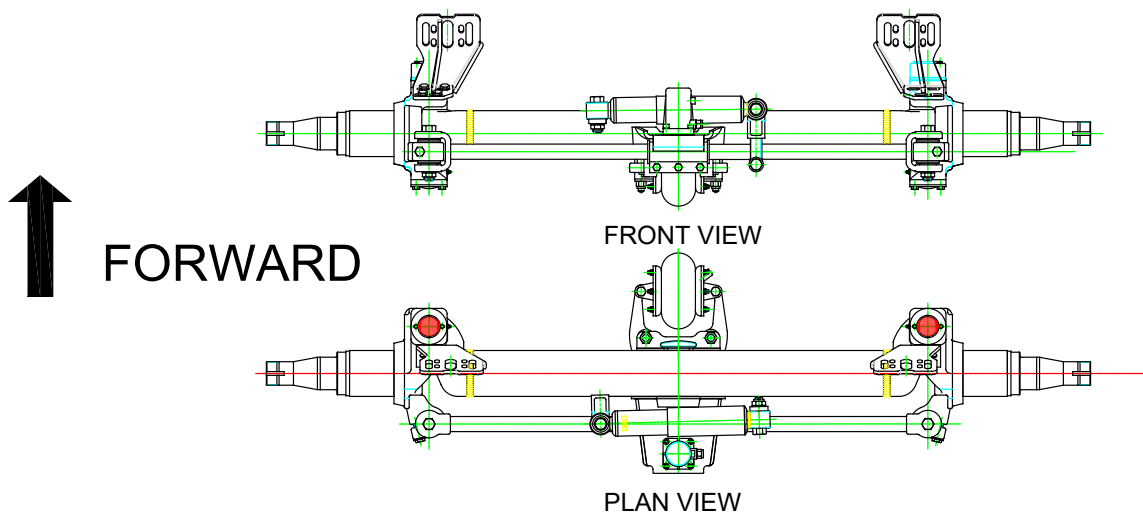
- A range of camshaft lengths for better brake chamber clearance and slack adjuster options.
- Offset Air Chamber Brackets for greater tyre and chassis clearance.
- Options to have the Air Chamber Bracket above the axle beam or below.
- Options to lock the steer axle by air or by hydraulic pressure.

We also can provide Self-Steer, Command-Steer, or Closed-Circuit-Forced-Steer options on our steer axles. The main differences between each steer axle model are outlined below.



## Self Steer Axles

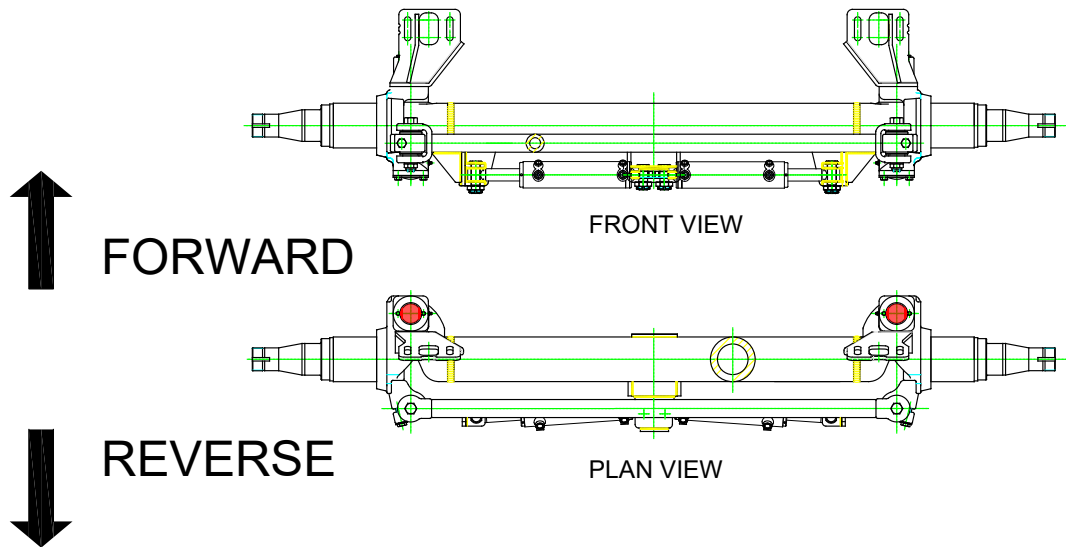
These turn due to the vehicle weight and need to be locked in reverse.





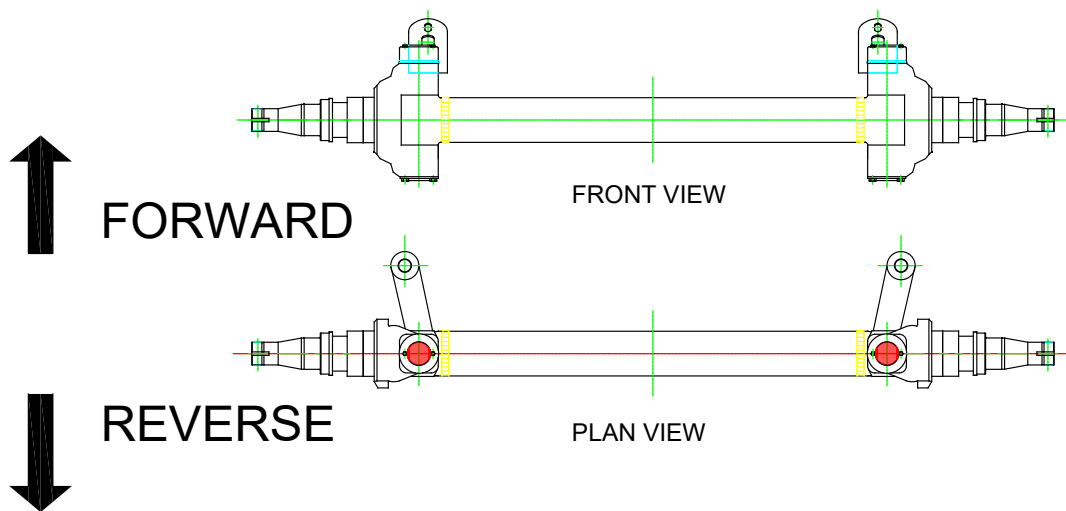
## Forced Steering Closed System

Steering forward and reverse through movement of hydraulic ram on drawbar.



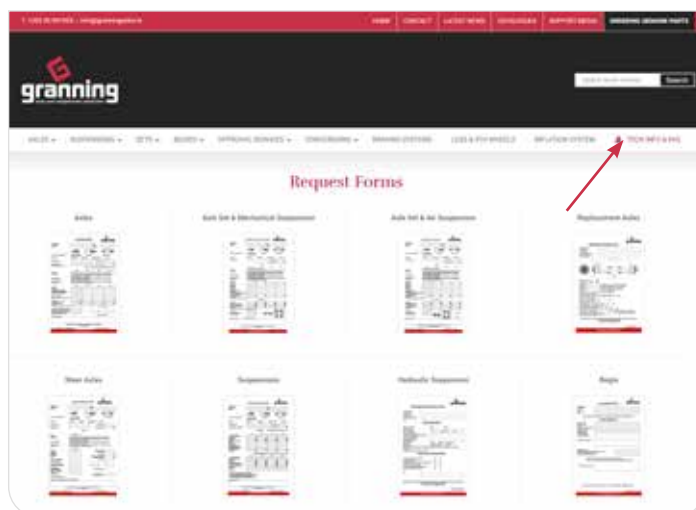
## Command Steering

Larger steering angle due to centered kingpin. Generally forward and reverse steering controlled by sensors and computer.



## All our Request Forms are Available Online..


Visit **Tech Info & FAQ** Section on our web to view or download in PDF.



Online access includes forms for the following:


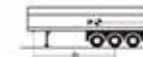

- **Axles**
- **Axle & Mechanical Suspension Sets**
- **Axle & Air Suspension Sets**
- **Replacement Axles**
- **Steer Axles**
- **Air & Mechanical Suspensions**
- **Hydraulic Suspensions**
- **Bogies**
- **Brake Calculation**
- **Turning Circle**
- **Retrofit Conversion**
- **Brake Kit**

Sample Form



### AXLE REQUEST FORM

Company name: \_\_\_\_\_ Date: \_\_\_\_\_  
 Contact name: \_\_\_\_\_ Tel: \_\_\_\_\_  
 E-Mail: \_\_\_\_\_

**Trailer Type** (please select) ☐ Centre Axle Trailer ☐ Rigid Drawbar Trailer ☐ Semi Trailer ☐ Drawbar Trailer

**Trailer use** ☐ Commercial ☐ Agricultural ☐ Engineering Plant ☐ Fixed Load

**Trailer Body Type** \_\_\_\_\_ **Number of axles** \_\_\_\_\_


**Suspension Type** \_\_\_\_\_ **Max Design Speed** \_\_\_\_\_ **kg/h**

**Air/Mechanical/Hydraulic/None**

**Axle Data** (If all axles are the same only complete Axle 1 column)

	Axle 1	Axle 2	Axle 3	Axle 4
<b>Brake Size</b>				
<b>Drum Brakes</b>	420 x 220 (150 Series), 420 x 180 (200 Series), 420 x 180 (100 Series), 406 x 120 (180 Series), 315 x 210 (900 Series), 310 x 190 (400 Series), 310 x 190 (300 Series), 300 x 115 (750 Series), 420 x 180 (950 Series), 420 x 180 (980 Series)			
<b>Agricultural Brakes</b>	400 x 80 (974 Series), 400 x 80 (973 Series), 300 x 131 (730 Series), 300 x 90 (7050 Series), 300 x 60 (972 Series), 350 x 60 (972 Series)			
<b>Heavy Duty Brakes</b>	420 x 220 (13500kg), 420 x 200 (10000kg), 420 x 180 (16000kg), 420 x 200 (12000kg @ 50 kph)			
<b>Disc Brakes</b>	400mm Disc (700 Series), 380mm Disc (600 Series)			
<b>Tyre Size</b>				
<b>Single / Twin</b>				
<b>Rim Fitment (Centre/Offset)</b>				
<b>Rim Material (Steel/Aluminium)</b>				
<b>Wheel Nut (ISO/UN/Other)</b>				
<b>Brake Chamber Size</b>				
<b>Brake Actuation (Air/Hydraulic/Dual)</b>				
<b>Load Per axle</b>	kg	kg	kg	kg
<b>Wheel speed Sensors (ABS)</b>				
<b>Axle Track Dimension*</b>	mm	mm	mm	mm
<b>Steer axle**</b>				
** If yes please complete Steer Axle Form				
<b>Slack Adjusters (Automatic/Manual)</b>				
<b>Supply of slack adjusters (Fitted/Loose)</b>				
<b>Chambers / Actuators (Fitted/Loose)</b>				
<b>Saddle Supply (Fitted/Loose)</b>				

**Any other comments**



\* Axle Track Dimension

Original information will be supplied by Granning to meet its standards and product needs

Tel: (+353) 45 897553

Please, complete and return to: [info@granningaxles.ie](mailto:info@granningaxles.ie) Part No: 80301 Rev 01 Apr 2021

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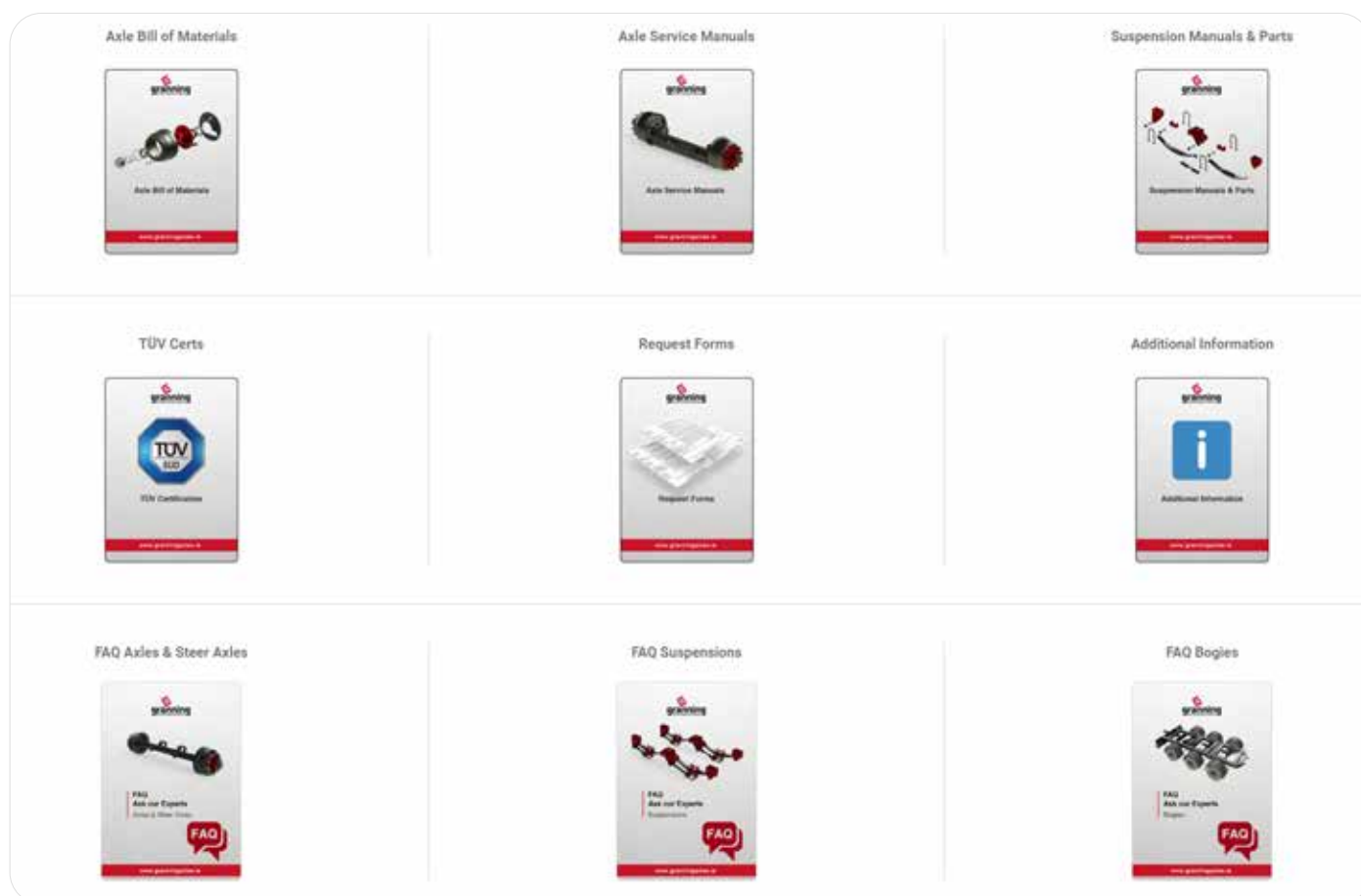
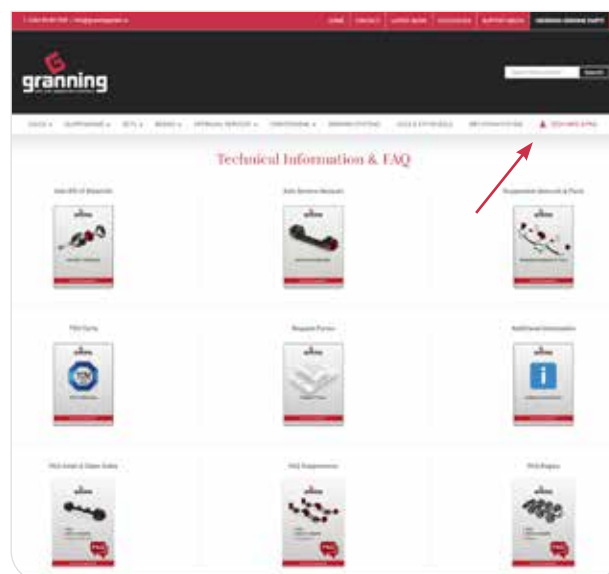
Scan QR Code  
for quick access



## Our Tech Documentation is also Available Online..

Visit **Tech Info & FAQ** Section on our web to download more documents in PDF:

- **Axles Bill of Materials**
- **Axles Service Manuals**
- **Suspension Manuals & Parts**
- **TÜV Certificates**
- **Request Forms**
- **Additional Info & FAQ**









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