

Application

TF-VO Steered independent air-suspension



TF-VO

TRIDEC's steered independent air-suspension TF-VO combines an advanced air-suspension with a robust mechanical steering system. A trailer equipped with an TF-VO system offers a steered trailer's agility with the possibility for additional cargo space by a second cargo floor. The TF-VO has found its success in distribution transport. Many operators are enjoying financial benefits by additional cargo space and the ability to provide urban areas. A 'double deck' TF-VO, for example, fits 83 roll containers instead of the normal 52. In contrast to B-doubles or LHV's, a TF-VO double decker is welcome in the whole of Europe without restrictions.

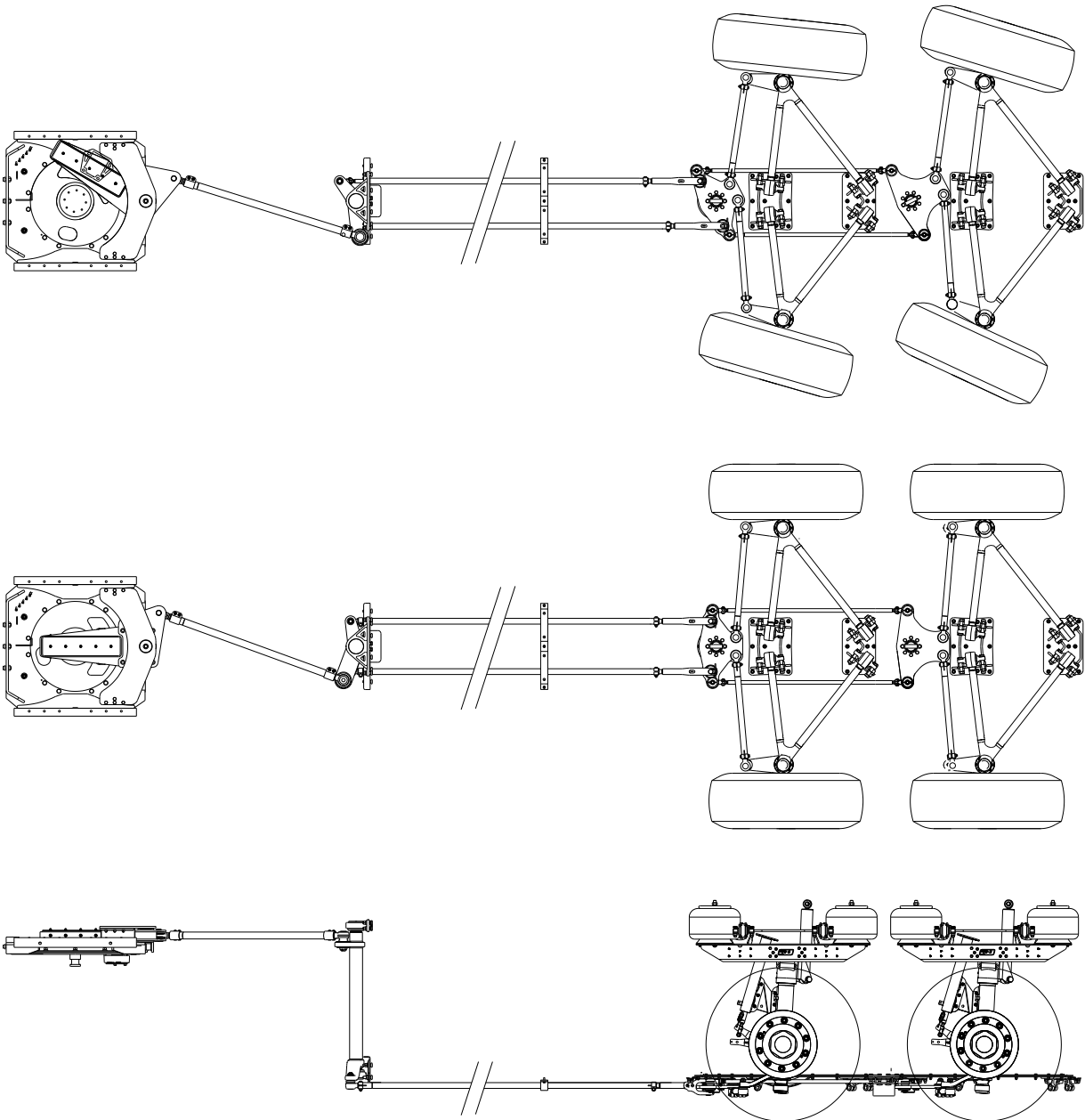


Noticeable savings

- Less runs by increased cargo space and improved manoeuvrability
- Reduction of kilometre cost price per pallet or container
- Sustainable / CO2 reduction
- Time savings, by less frequent loading and unloading, as well as improved manoeuvrability
- Improved fuel consumption
- Reduced tyre wear
- Less vehicle damage
- 1278mm cargo space between the wheel boxes
- 50 Euro-pallets instead of 33, over 50% additional roll containers
- Possibility for a second cargo floor
- Over 107m³ cargo space
- Low maintenance
- Safety improvement by low centre-of-gravity and improved manoeuvrability

Steering principle

While making a turn, the movement between the truck and trailer is transmitted by the fifth wheel plate, locked into the fifth wheel coupling by the steering wedge. By means of a steering accelerator and a vertical pipe, the steering movement is transmitted to twin longitudinal steering rods, which run underneath the trailer's floor. The rods make sub-floor-mounted levers turn, which consequently steer the individual suspension legs by track rods. The patented progressive steering system allows for optimal manoeuvrability, improving access to urban areas.



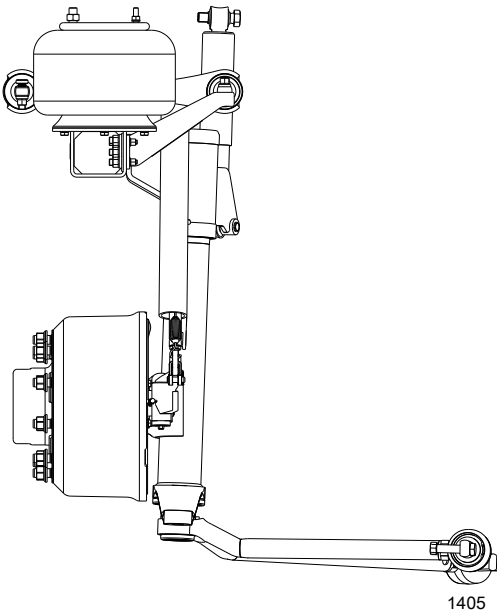


Suspension principle

The unique and patented independent suspension uses two air-bellows per leg, providing excellent vehicle stability. The utmost compact construction contributes to the enormous loading volume. The suspensions pivot points and bearings require a minimum of maintenance and are insensitive for dirt and moist.

Unique design

The unique and patented TF-VO design allows for a construction without a bulky axle body in between the wheels. This space is added to the cargo space, allowing a second cargo floor. The double deck trailer offers an enormous increase in capacity within the permitted standard dimensions. A 2550mm wide trailer offers 1278mm between both wheel boxes, without the tyres protruding outside the wheel wells.

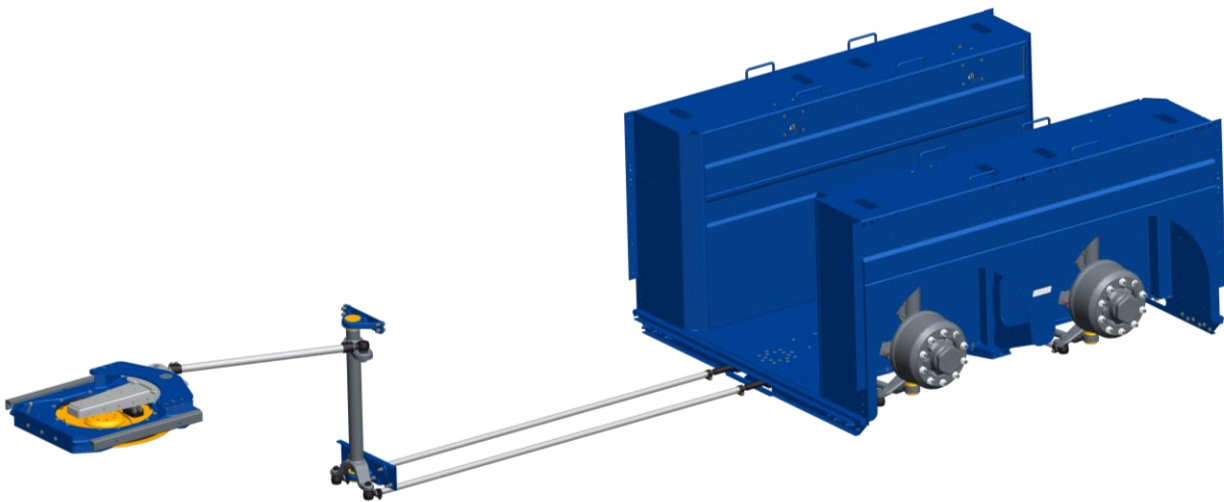


Technical specification

TF-VO Steered independent air-suspension

General

A TRIDEC wheel box construction saves the trailer builder considerable time, as TRIDEC supplies a wheel box designed to fit the trailer and chassis. Both wheel boxes and floor are standard galvanised and can be bolted into the chassis, allowing for modular construction. Once the wheel boxes are installed, the suspension legs can easily be fitted. The steering system is pre-mounted as much as possible, reducing mounting effort and installation time.



Maintenance

TRIDEC's TF-VO suspension and steering systems requires a minimum of maintenance, as high-quality materials, rubber bearings and 'sealed for life' constructions are used. Periodical greasing is restricted to a limited number of central positioned greasing points at the fifth wheel unit and the axle stubs' brakes. Excellent corrosion protection is provided as the suspension legs, steering system and track rods are KTL-treated. The wheel boxes, floor and steering rods are galvanised. Special TRIDEC spline bolts prevent loosening of bolt connections.

Technical Specifications

Feature	Value
Axle load	10t
King pin load	15 / 20t
Deck height	Maximum 2x 1,85m (at 4m overall trailer height)
Space between wheel boxes	1278mm
No of Euro pallets	50
Vehicle width	2550 / 2600mm
Suspension travel	105mm in (incl. bump-stop), 170mm out
Steering angle	25° progressive steering
Axle stub	Gigant GEOKH2 10010 4218 ECE test report brake: 361-015-07
Tires	385/65 R22,5*
Rims	22.5x11.75 65mm offset
Chassis centre gooseneck	980 / 1200mm
RDW test report	EEC R79, no. NL-79R-010003

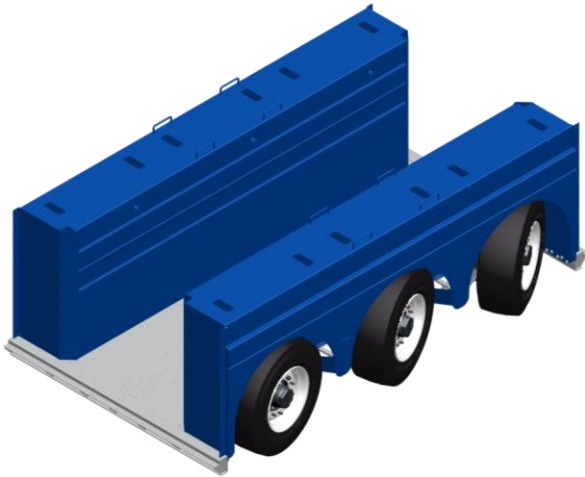
* Note that between the various tyre manufactures the diameter and width of the tyre can differ significantly. Please check the TRIDEC drawing for the specified dimensions to guarantee sufficient tyre clearance.

Components



Fifth wheel unit

- Bolted into the chassis by supplied mounting profiles, which are welded into the chassis resulting in simple and quick installation (standard 15t, optional 20t).
- Easy maintenance and possible repairs
- Equipped with JOST turntable, 2" king pin, TRIDEC steering wedge
- Progressive steering characteristic for optimal manoeuvrability
- Customer specific gooseneck
- Treatment: KTL, galvanised steering rod
- Maintenance free ball joints
- Patented sealed for life bearing constructions



Wheel boxes and floor

- Fully galvanised
- Fit for modular trailer fabrication, by bolt and glue interfaces
- Space for air-tanks and additional components
- Cable routing for required pipes and hoses
- 2550mm and 2600mm vehicle width versions for dry and refrigerated transport



Wheel suspension

- Patented design
- Improved vehicle-stability by double air bellows
- Suitable for 385/65R22,5* tires, 22.5-11.75 offset 65mm rims
- Low maintenance suspension system
- Rubber- and sealed for life bearing constructions
- Treatment: KTL
- Easy mounting in wheelboxes
- Gigant axle stub, with compact bearing and service friendly 'Protec' drum, standard with ABS sensors on one axle line

** Note that between the various tyre manufactures the diameter and width of the tyre can differ significantly. Please check the TRIDEC drawing for the specified dimensions to guarantee sufficient tyre clearance.*

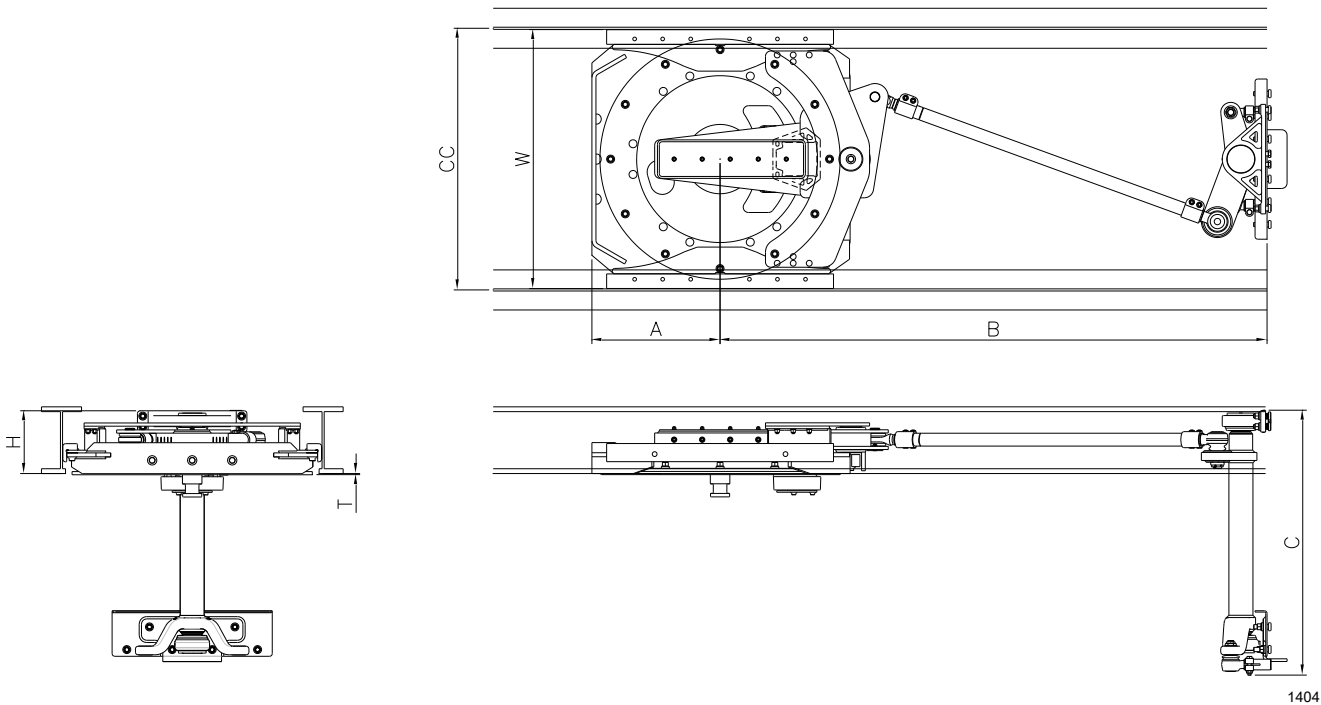


Steering rods

- High quality maintenance free ball joints
- Patented sealed for life bearing constructions
- Easy wheel alignment, rod length can easily be adjusted
- To prevent bending and chattering of the steering rods, rod supports are included
- Treatment: KTL or galvanised

Dimensions

Fifth wheel unit **Progressive**

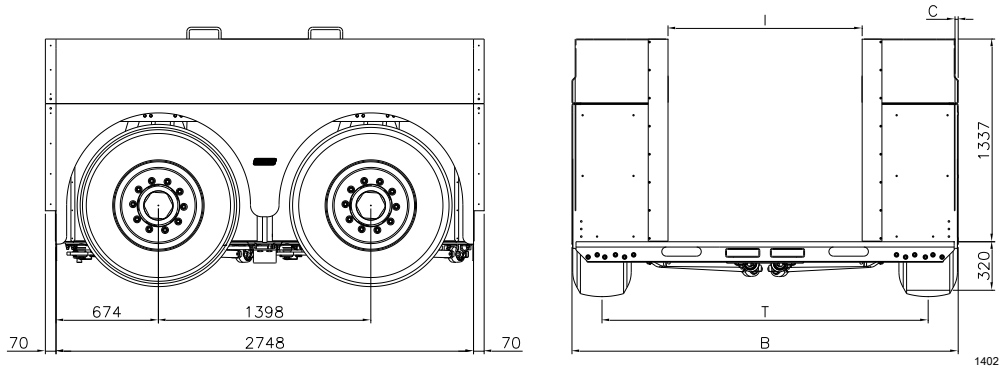


Max. load (t)	CC (mm)	W (mm)	A (mm)	B&C (mm)	H (mm)	T (mm)	Weight (kg)*
15	980	970	480	Customer	235	4	430
20	980	970	480	specific	235	4	430
15	1200	1190	480	Customer	235	4	493
20	1200	1190	480	specific	235	4	493

* Fifth wheel units length and transfer levers height are designed to meet the gooseneck, hence the total weight can vary.

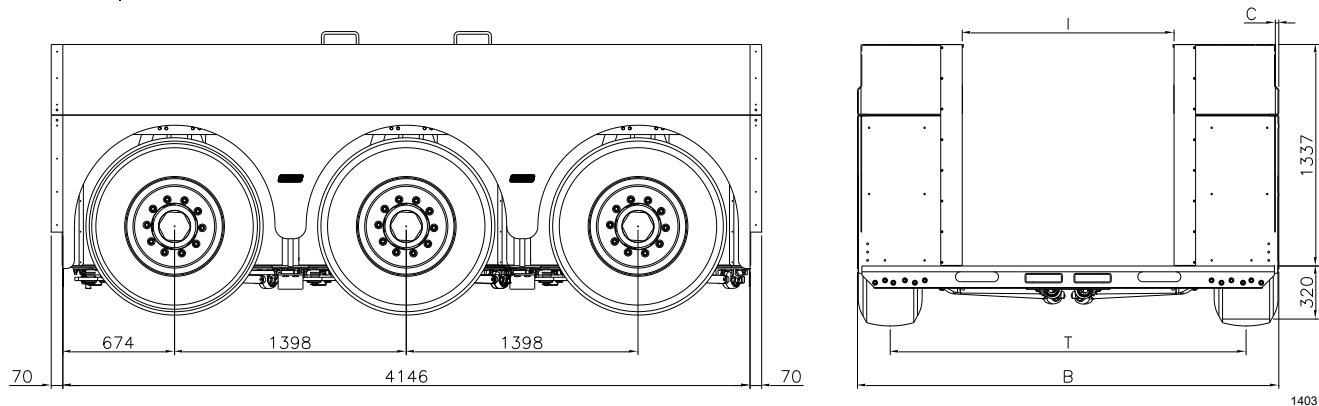
Wheel-boxes and floor **Tandem**

B (mm)	T (mm)	I (mm)	C (mm)	Weight (kg)
2542	2147	1278	21	2878
2592	2197	1328	47	2916



Wheel-boxes and floor **Tridem**

B (mm)	T (mm)	I (mm)	C (mm)	Weight (kg)
2542	2147	1278	21	4354
2592	2197	1328	47	4411



Order references

TF-VO wheel suspension with steering system

Code	Description
1452	2 axle lines (1 axle line with ABS) 2 axle lines steered, galvanized wheel-box and floor
1453	3 axle lines (1 axle line with ABS), galvanized wheel-box and floor

TF-VO options

Code	Description
1406	Additional price for extra axle line with ABS
1407	20 tons fifth wheel unit
1413	Steel rims 22.5 x 11.75 65mm offset

The information contained in this document gives an indication of the possibilities. Not all exceptional models are included in this document. Please contact our sales department to determine whether a particular configuration of the system can be used in your trailer or that special solutions are possible.

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