

Application

HF multi-functional kingpin steering system



HF Hydraulic steering system

The Tridec hydraulic HF steering system is successfully fitted into trailers for distribution transport as fuel, milk and bulk goods, but also into runway-sweepers, mobile medical centres and low-loader draw-bar trailers. The HF system steers one single kingpin axle. The hydraulic connection between fifth wheel unit and axle-unit offer full trailer-design freedom and allows for extendable vehicles. The kingpin axle wheel movement consumes limited space and allows a low deck trailer.

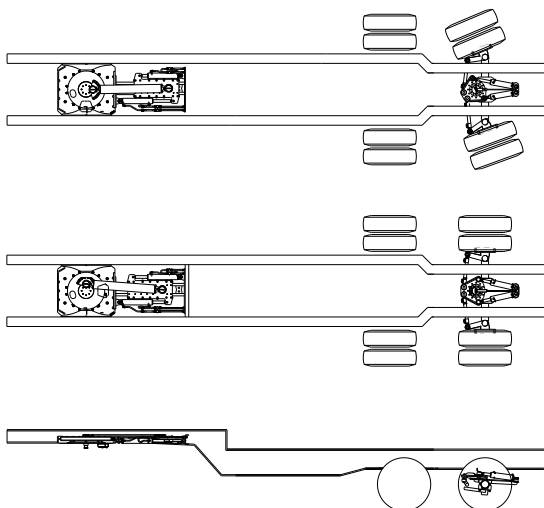
The HF steering system improves the trailers manoeuvrability, reduces tyre wear and increases efficiency. Manoeuvrability can be further improved by the addition of Compact or Tritronic manual steering.

Savings on

- Fuel consumption
- Tyre wear
- Time by improved manoeuvrability
- Vehicle maintenance
- Vehicle damage

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. The movement of the fifth wheel plate activates 2 cylinders in the fifth wheel unit, which are connected to 2 cylinders at steered axle of the trailer. These cylinders steer, using track rods, the steering lever of the axles.



Technical specification

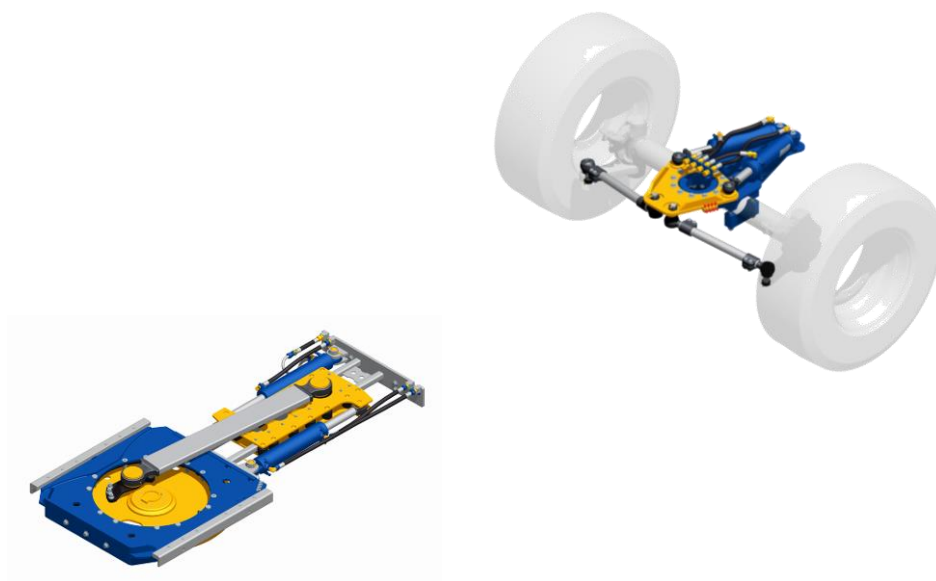
HF multi-functional kingpin steering system

General

- The HF system steers one single kingpin axle.
- Suitable for most kingpin axle types and makes.
- RDW test report according EEC guideline (70/311) available at request (no. 56210054).
- Special TRIDEC spline bolts used for most bolt connections. No loosening of bolts and re-tightening not necessary.
- Gross weight: 525 kg. Net weight of steering system is reduced due to the replacement of a conventional rubbing plate with the TRIDEC fifth wheel unit.
- Possible steering angles: Maximum 40°.
- Components: fifth wheel unit (linear/progressive), track rods, axle-unit, hydraulic control box.

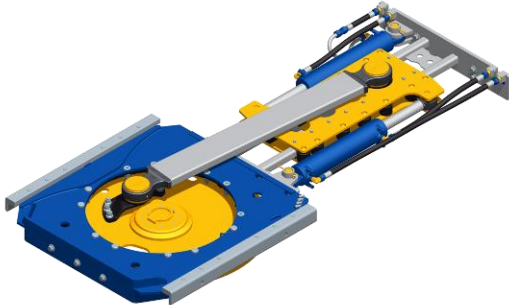
Technical specification

Feature	Value
Number of steered axles	1
Fifth wheel load	15/20/26.5t
Axle load	12t
Axle distance	>1310 (depending on steering angle)
Chassis centres in the neck	980/1200mm (15t and 20t), 1060mm (26.5t)
Gross weight	Upwards of 529 kg
Steering angle	Maximum 40°



Components

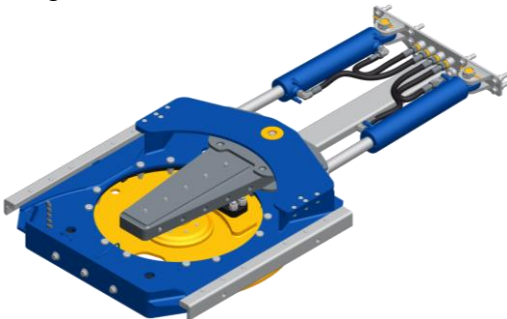
Linear:



Fifth wheel unit

- Bolted into the chassis by supplied mounting profiles, which are welded into the chassis resulting in simple and quick installation (15, 20 and 26.5t).
- Easy maintenance and possible repairs.
- Equipped with JOST turntable, 2" king pin (3,5" at 26.5t and more), TRIDEC steering wedge.
- Treatment: KTL, Nikrom piston rods.
- Two steering principles possible: linear and progressive.
- Optionally with boltable fifth wheel unit frame for tankers.
- Available in draw-bar versions.

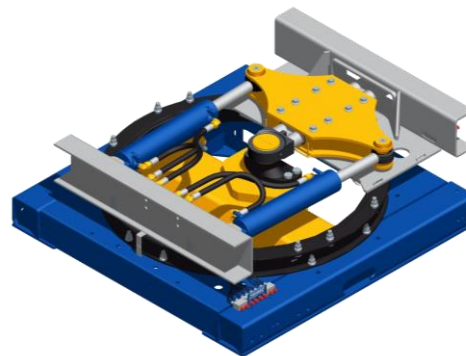
Progressive:



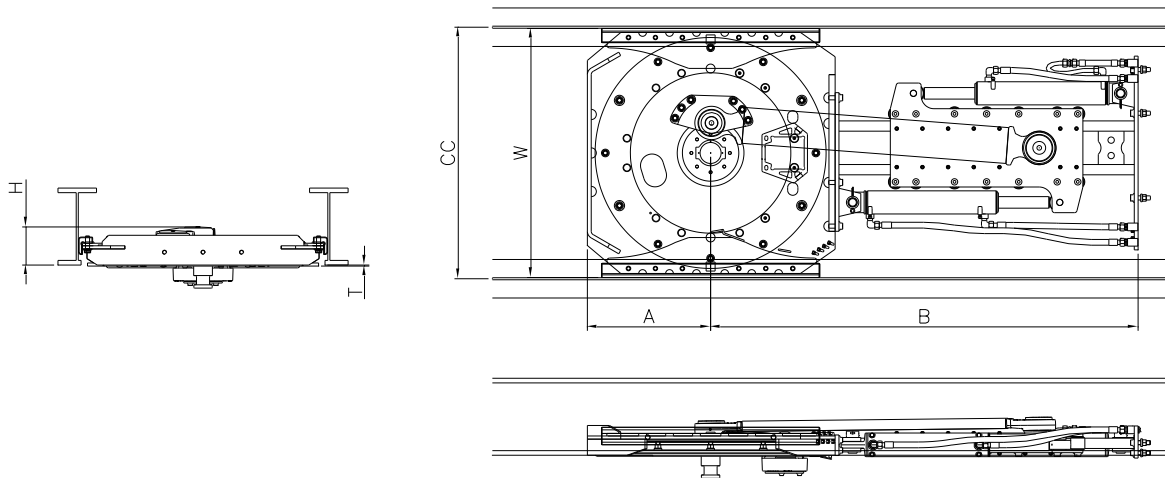
Boltable fifth wheel unit frame:



Draw-bar trailers :



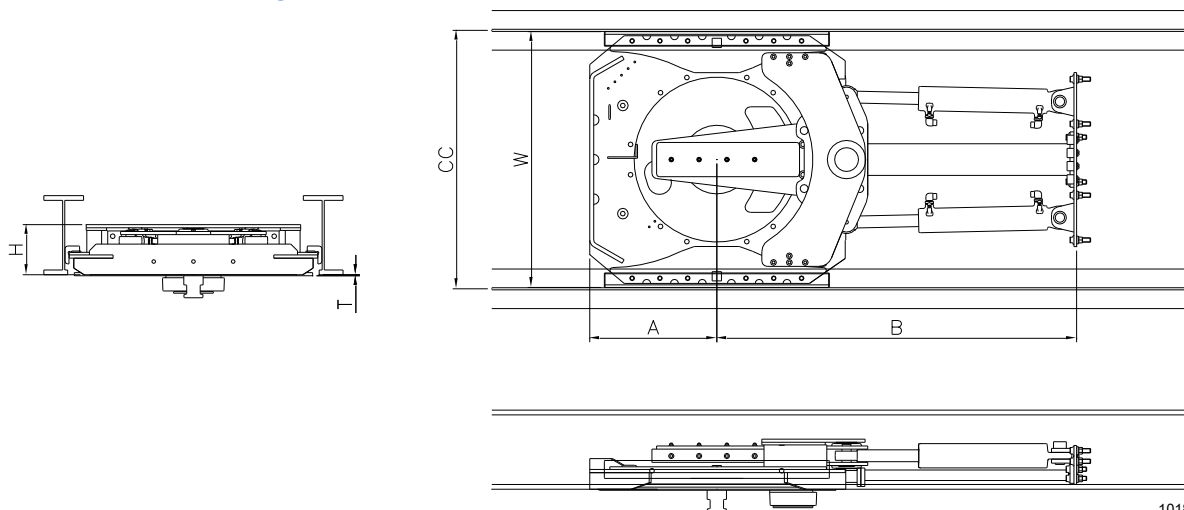
Fifth wheel unit **Linear**



1017

Max. load(t)	CC (mm)	W (mm)	A (mm)	B (mm)	H(mm)	T(mm)	Weight (kg)
15	980	970	480	1665	148	4	366
20	980	970	480	1665	148	4	378
15	1200	1190	480	1665	148	4	424
20	1200	1190	480	1665	148	4	440
26.5	1060	1050	520	1710	166	6	434

Fifth wheel unit **Progressive**



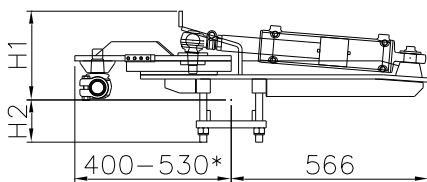
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Max. load (t)	CC (mm)	W (mm)	A (mm)	B (mm)	H(mm)	T(mm)	Weight (kg)
15	980	970	480	1359	190	4	410
20	980	970	480	1359	190	4	422
15	1200	1190	480	1359	190	4	467
20	1200	1190	480	1359	190	4	484
26.5	1060	1050	520	1405	191	6	457



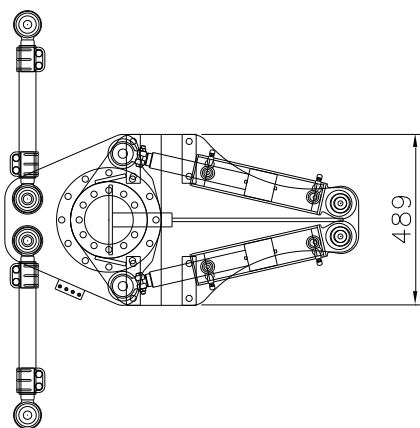
Axle-unit

- Easy installation on top of or below axle-body.
- Versions for most common available axle-bodies.
 - □ 120mm
 - Ø 127, 133 & 146mm
- Bolt connections ensure quick and easy installation. (weld-cam required for round axle bodies)
- Easy alignment, length of the track rods easily adjustable.
- Cylinder mountings with grease free bearings. (ball-joints at piston rods)
- Steering lever with state of the art bearing equipped with dirt-seal and protection cover.
- Central positioned greasing points
- Central positioned and color-coded hydraulic connections
- Treatment:
 - Axle-unit and ball-joints KTL treated
 - Nikrom piston rods
 - Galvanized track rods



Axle (mm)	H1(mm)	H2 (mm)	Weight (kg)
□ 120	255	121	136
Ø 127	266	120	130
Ø 133	266	120	130
Ø 146	272	113	130

*Depending on required steering angle



0803

Control box manual:



Hydraulic control unit

Every hydraulic steering system has a standard stainless steel control box, where the following functions and components are combined:

- tank
- relief valves
- steering valves
- pressure sensors
- hand pump
- air bleeders
- low pressure warning light
- filters
- accumulator
- all hydraulic connections are color-coded

TRIDEC also supplies all hydraulic pipes, required oil and an accumulator block.

When manual control is required, two options are available:

- TRITRONIC manual control with automatic alignment (see TRITRONIC information)
- Manual steering compact

Control box Compact:

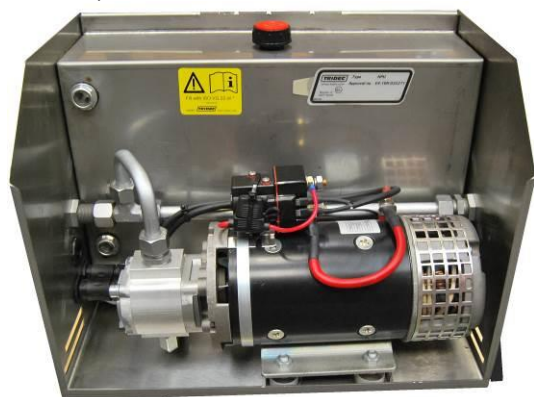


Compact manual steering (option 0832)

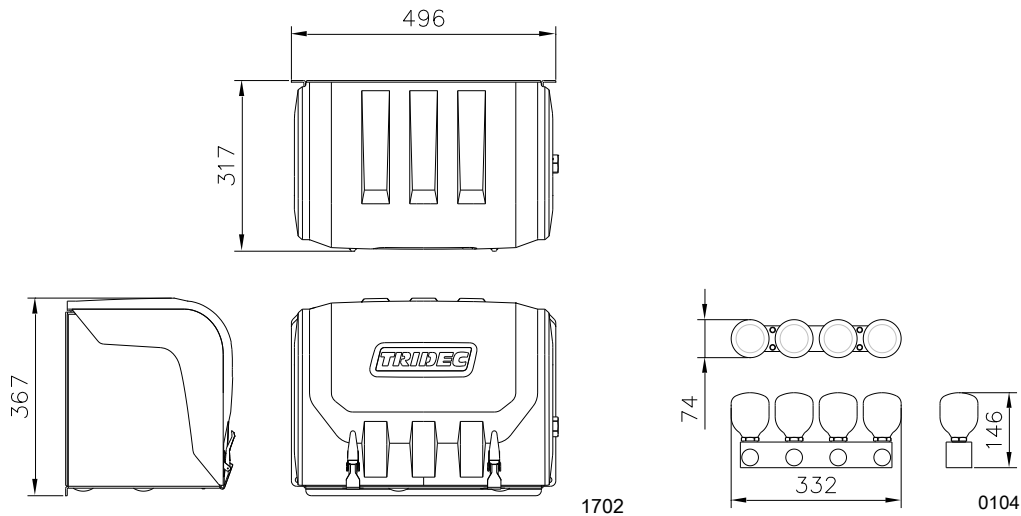
Choosing this option, the default control box with manual block is replaced by the box as shown left, with an electrically operated block. Additionally a power pack is delivered in a separate control box. The compact manual steering has these specifications:

- 2 identical remote controls with cable: one cabin remote control and one trailer remote control
- All cables are easy to connect with high quality Souriau connectors
- At both controllers alignment indication available
- For use next to the vehicle 2 connectors are available, one inside the control box, one on the outside of the control box
- Sensors for alignment indication are plug & play (delivery includes cables)
- Suitable for 24V only
- EMC and ISO7637 tested, RDW E4 certificate available (E4-R10-032275)
- All components are IP 65 (or higher) classified
- Connection for additional alignment control lights is present, corresponding plug included
- Connection for additional pressure warning light is present, corresponding plug included

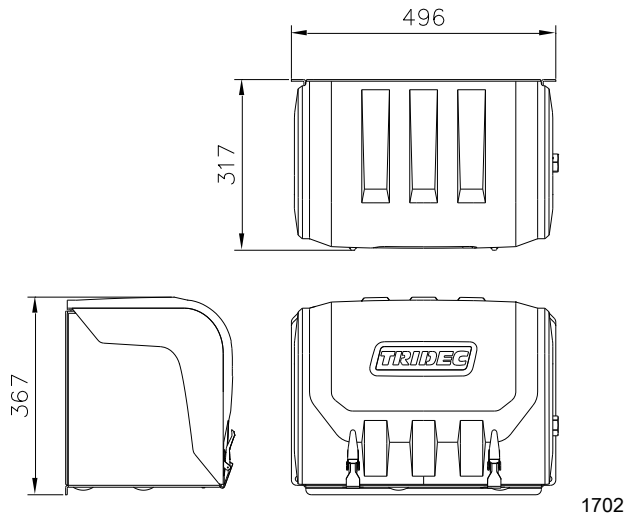
Power pack box:



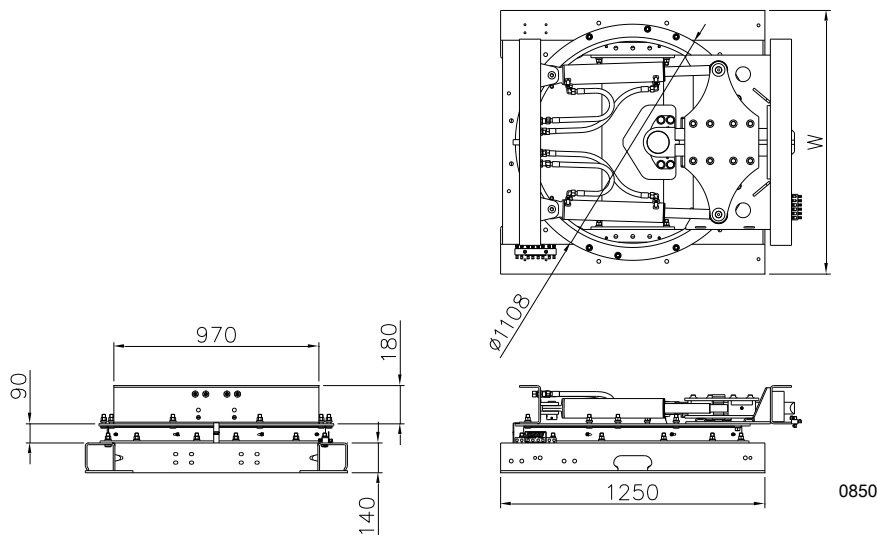
Control box Manual and accumulator block



Power pack box

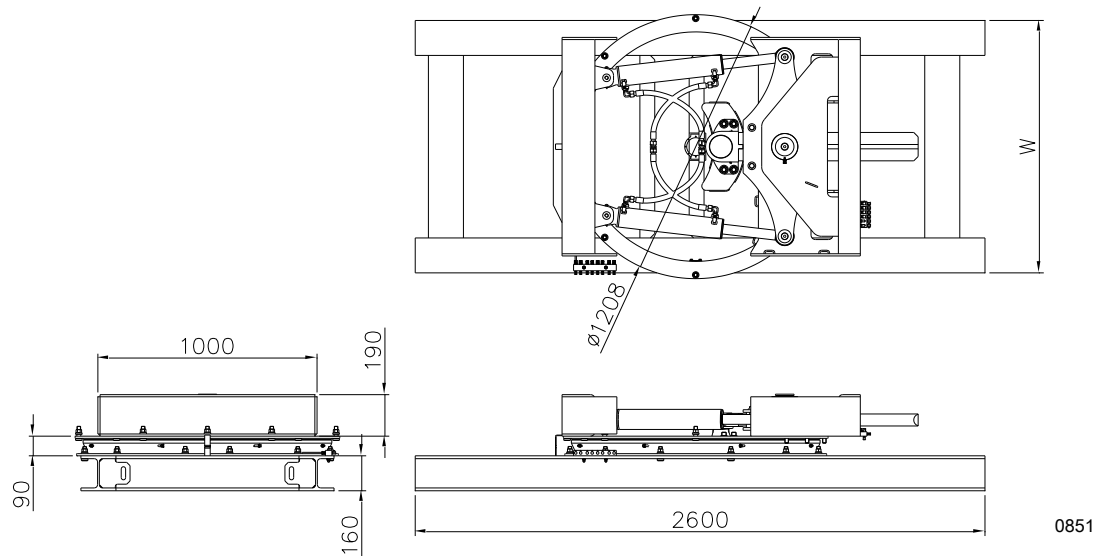


Turntable draw-bar steering 1 front axle **Progressive**



Spring centre (mm)	W (mm)	Max. load (t)	Max. load technical(t)
900-980	1100	10	12
1100	1240	10	12

Turntable draw-bar steering 2 front axles **Progressive**



Spring centre (mm)	W (mm)	Max. load (t)	Max. load technical (t)
900-980	1155	20	24
1100	1260	20	24

Order references

HF Hydraulic steering system

Code	Description
0801	HF steering system 1 axle steering
0850	HF draw-bar steering system 1 front axle - 1 axle steering
0851	HF draw-bar steering system 2 front axles - 1 axle steering

HF options

Code	Description
0822	20 tons fifth wheel unit
0827	26.5 tons fifth wheel unit with 3.5" kingpin
0826	Fifth wheel unit to bolt in chassis, for tanker chassis
0832	Compact (cable) manual steering (for TRITRONIC manual steering, see Code 1701)
0843	Multifaster
0846	Energy chain width (153mm) mounted with four hydraulic hoses, first and last meter (only complete meters)
0847	Every extra meter energy chain (only complete meters)
0848	4 kW power pack instead of 3kW power pack

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.

Sales contact

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