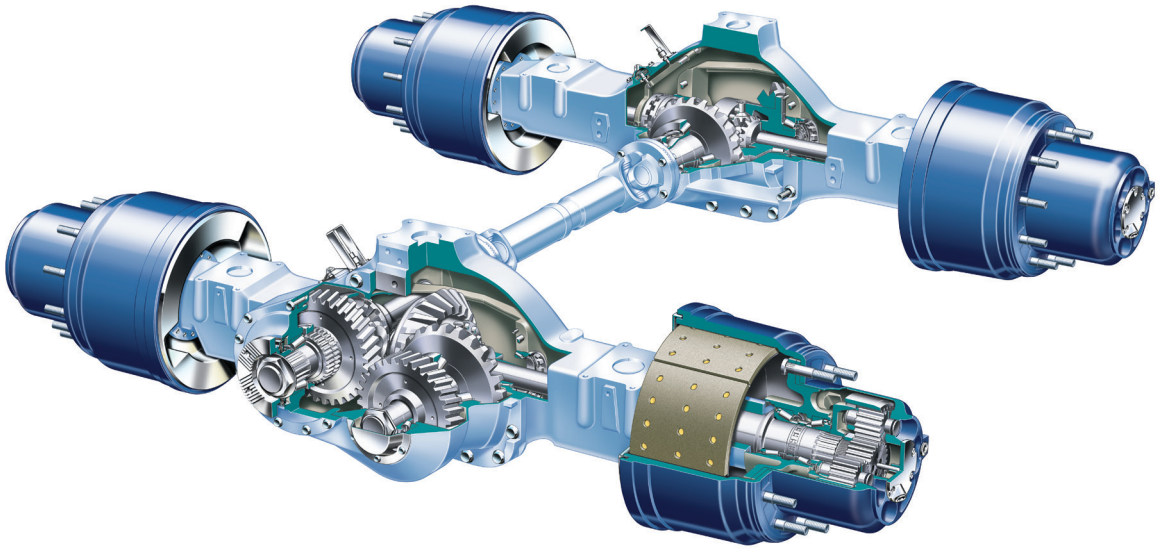
FACT SHEET

Rear axle RTH3210F



RTH3210F is a tandem axle with hub reduction, dimensioned for an engine torque of 3550 Nm. The maximum axle loading is 32 tons and the combination weight is 100 tons.

RTH3210F consists of two spiral bevel single gear units, with a distribution gearbox in the forward rear axle. The axle casing is cast in nodular iron, giving a compact design with high ground clearance.

Most of the torque conversion takes place in the reduction gears in the wheel hubs. This is a reliable design which takes the form of a cylindrical planetary gear with straight-cut gears on needle bearings, giving low drive losses.

RTH3210F is designed for heavy, demanding haulage and train weights of up to 100 ton. The two-axle drive means that the tractive effort can be transferred to the ground without wheel slip, giving excellent grip and very low tyre wear.

RTH3210F has three differential locks, one for the forward and one for the rear gear units and one of the distribution gearbox. This guarantees very good grip when the surface is slippery, which results in higher truck productivity.

The diff locks are controlled by a two-stage switch on the instrument panel. When the first stage of the switch is selected the diff lock on the distribution gearbox is engaged, coupling the two rear axles together. When the second stage of the switch is selected, the driveshafts of the two rear axles are coupled together.

A combination of new production methods and special oil has resulted in longer oil change intervals. This means lower operating costs and reduced environmental impact. With an approved synthetic oil, an oil change is needed after at most 450 000 km or every three years.

FEATURES AND BENEFITS

- Spiral bevel single gear units with high efficiency and low servicing requirements.
- Sturdily dimensioned and hardened shafts and gears.
- Hub reduction gears reduce loads on the driveline.
- Wheel bearings in the form of maintenance-free unit bearings give longer life and easier servicing.
- Three reliable diff locks give high vehicle availability.
- High ground clearance.

FACT SHEET

Rear axle RTH3210F

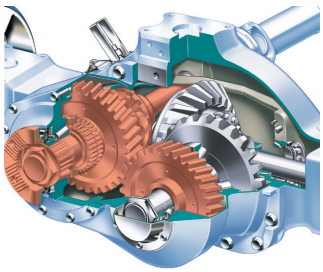
Tandem drive offers excellent traction and superb pulling power

The RTH3210F consists of two single reduction gears of spiral bevel type and a transfer gear which is integrated in the first final drive.

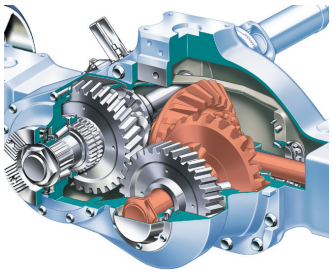
The job of the transfer gear is to distribute drive force evenly between the two rear axles.

The drive force from the gearbox goes via the transfer gear's input shaft to the differential. From the differential, the power is transferred partly by a cylindrical spur gear to the first rear axle's final drive, and partly to the transfer gear's output shaft which operates the second axle's final drive via a propeller shaft.

This type of rear axle combination with tandem drive allows considerable tractive force to be transferred to the road surface without slipping since the combined axle pressure is high. The result is excellent get-you-there ability and low tyre wear.



Transfer gear in the first final drive



Single reduction gear in the first final drive

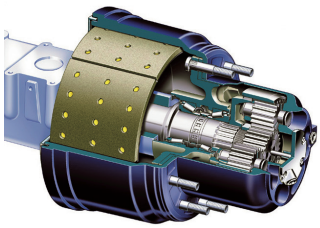
Hub reduction with high reliability

RTH3210F is fitted with reduction gears in each hub. The hub reduction gearing consists of a cylindrical planetary gear with straight-cut gears on needle bearings, giving low drive losses.

The sun wheel is mounted on the driveshaft. From the sun wheel, the power is transferred to three planetary gears connected to the wheel hub.

When the planetary gears are forced to rotate against the ring gear, which is rigidly fixed to the rear axle casing, the rotation speed is geared down.

The wheel bearings are in the form of maintenance-free unit bearings. The entire hub with bearings can be removed and installed simply and safely without affecting the bearing clearance.

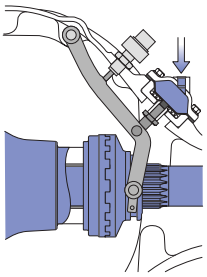


Three differential locks give high availability

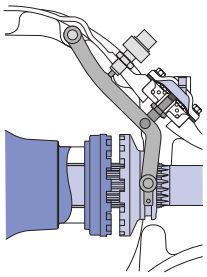
RTH3210F is fitted with three diff locks, one for each rear axle and one for the distribution gearbox. The diff lock for the distribution gearbox couples together the drives of the two rear axles, whilst the diff locks on the rear axles couple the driveshafts to the diff casing. When all three diff locks are engaged, all drive wheels are forced to rotate at the same speed.

The diff locks are in the form of hardened steel dog clutches operated by compressed air. There are two lamps on the instrument panel to indicate when the diff locks are engaged. One lamp is for the distribution gearbox diff lock and the other is for the diff locks of the two rear axles.

The diff lock function guarantees very good grip when the surface is slippery, which results in higher truck vehicle availability.



Differential lock engaged (rear axle)



Differential lock disengaged (rear axle)

SPECIFICATION

Type designation	RTH3210F
Gear	Single gear, spiral bevel with hub reduction
Distribution gearbox	Cylindrical spur gear
Hub reduction	Cylindrical planetary gear
Weight including driveshafts, hubs and drum brakes	
Forward axle	879 kg
Rearward axle	776 kg
Crown wheel, diameter	295 mm
Driveshafts, diameter	45 mm
Maximum engine torque	3550 Nm
Max bogie loading	32000 kg
Max combination weight	100000 kg
Ratio with hub reduction	3.33:1
	3.46:1
	3.61:1
	3.76:1
	3.97:1
	4.12:1
	4.55:1
	5.41:1
	6.18:1
	7.21:1
Ratio distribution gearbox	1:1
Oil change quantity:	
Forward axle	26.5 l
Rearward axle	Air suspension 23 l/Leaf suspension 24 l

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