



# Agricultural Equipment



**CARRARO DRIVETECH**

## **Introduction**

### **Carraro Group**

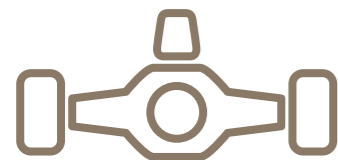
Carraro is a multinational Group and world leader in power transmission systems. Its core business consists in conceiving, designing, validating, manufacturing and marketing drive systems for construction equipment, agricultural tractors, material handling, light commercial vehicles, automobiles, renewable energies and stationary applications (such as escalators and wind generators).

The Group, whose holding company Carraro Spa has been listed on the Italian Stock Exchange since 1995, is based in Campodarsego (Padua) and has manufacturing facilities in Italy, Germany, Argentina, the United States, India and China.

# The Group Business Areas

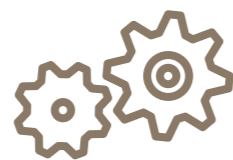


Integrated solutions (axles, transmissions, final & swing drives) for a wide range of applications: mining, construction equipment, agricultural tractors, light commercial vehicles, material handling and stationary applications (such as escalators & wind energy generators).

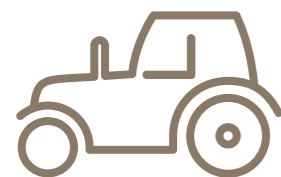


A Carraro Group Company

Low & high diameter steel gears, sinterized components and gears for earth-moving machines, agricultural tractors, cars, light commercial vehicles, two-wheel vehicles, power tools, garden equipment, railway and industrial applications, in particular for wind and solar energy.



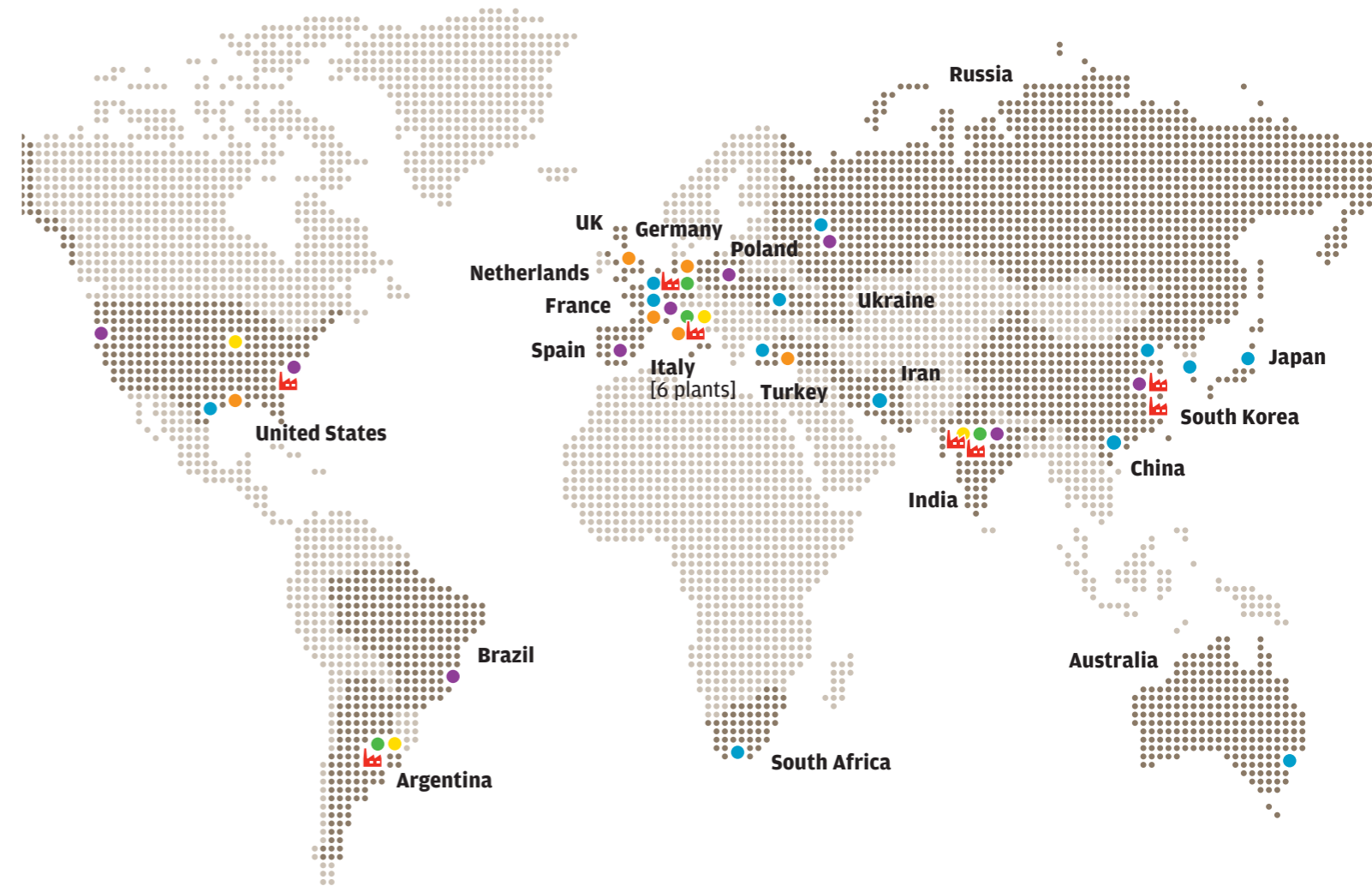
Design and manufacturing of standard, vineyard & orchard tractors, from 50 to 100 HP, offering a wide range of engineering services, from simple consultancy to “turnkey” projects.



Inverters and power control, frequency converters, applied electronics for industrial plants, automation, renewable energies management (photovoltaic & wind energy), hybrid and electric vehicle powertrains.



# Global footprint Where we are



HIGHLIGHTS	
	Manufacturing sites
	Sales Offices
	Engineering & Innovation Centers
	Dealers
	Service providers
	Logistics & Spare Parts Centers

# Carraro Drive Tech Drivelines & Drives

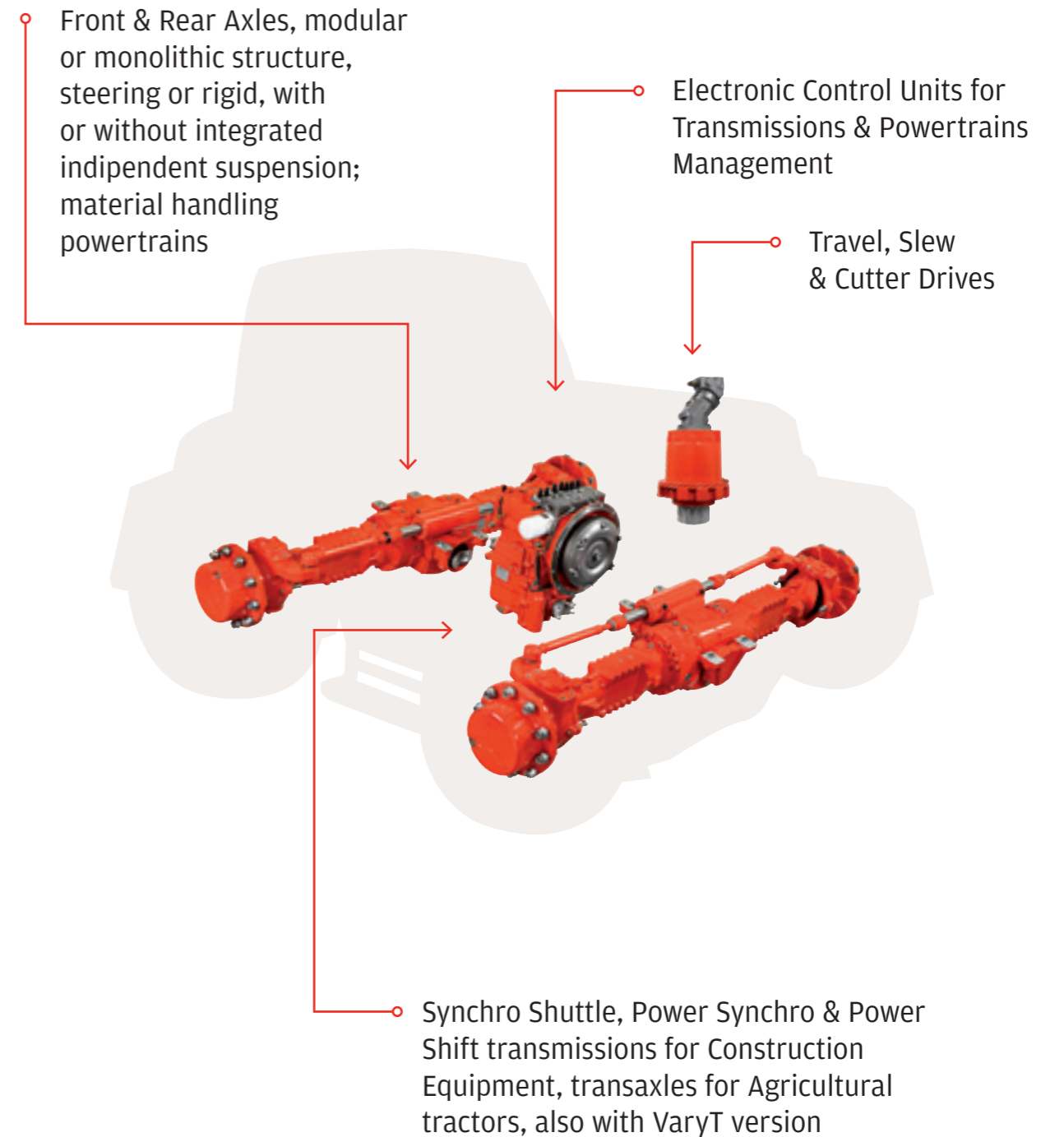
Carraro Drive Tech is the Business Unit managing the Carraro Group core business: designing, manufacturing and marketing drivelines, axles and transmissions, travel & cutter drives and electronic control units.

Wherever there is a need for integrated transmission systems for off- and on-highway vehicles, Carraro Drive Tech has the solution, with a complete, diversified product range for agriculture, construction equipment, mining, and material handling.

Carraro drivelines have been optimised for the individual markets of application, to guarantee the very best efficiency and most practical vehicle layout.

All this is possible thanks to the wide range of combinations of rigid and steering axles and mechanical, automatic or semi-automatic transmissions. The Carraro systems have been designed for the optimal integration of mechanics and hydraulics, under the supervision of an advanced electronic control unit. This can best manage the whole driveline while monitoring and diagnosing the vehicle functions.

## Our solutions





AGRICULTURAL EQUIPMENT

TRANSMISSIONS

# Transmissions

## T 3.0 Agricultural transaxle

- › Designed for tractors bound for the emerging markets for a power range up to 42 hp with a drop final reduction providing off-set wheel center axis
- › The two-axis design reduces dimensions, leaving ample room for the driver area
- › The basic version, with 8 forward plus 2 reverse speeds and constant mesh “collar shift” gears, allows massive cost savings, Premium option with synchro reverser provide the 8+8 transaxle version
- › The hydraulic lift draft, position and mixed control type, lift capacity 10,000 N, is designed for large attachments, thereby reducing job performance times
- › The mechanically operated “Ball & Ramp” wet brakes positioned close to the differential act before the reduction unit and are virtually maintenance free
- › The mechanical pedal-controlled differential locking ensures optimal grip even on difficult terrain
- › The optimal speed distribution between 2.6-32 Km/h allows smooth operation with the different attachments carried on the 3-point hitch or towed
- › 540 and 540/540E PTO speed controlled by a Single main clutch or with a double main clutch provide possibility to independently control the PTO versus the transmission
- › The SAE 4 clutch housing interfaces with different engine makes and satisfies the need for flexibility and image demanded by the various manufacturers

### Advantages

- › Progressive gear change with the tractor on the go
- › The independent PTO at 540 rpm or 540/540E ideal for jobs with balers, rotary cultivators, etc
- › The independent PTO at 540 rpm or 540/540E allows for tractor stop during implement use

### Options

- › The factory fitted “Rice paddy” seals allow to work in difficult environments
- › The facility for mechanical-control 4WD take-off will add further versatility to the transaxle

## T 3.0

### INPUT DATA

Maximum transmission input net power	<b>kW</b>	25,5
	<b>HP</b>	34,7
Max engine speed at rated power	<b>rpm</b>	2000
Maximum input torque	<b>Nm</b>	149

### CONFIGURATION

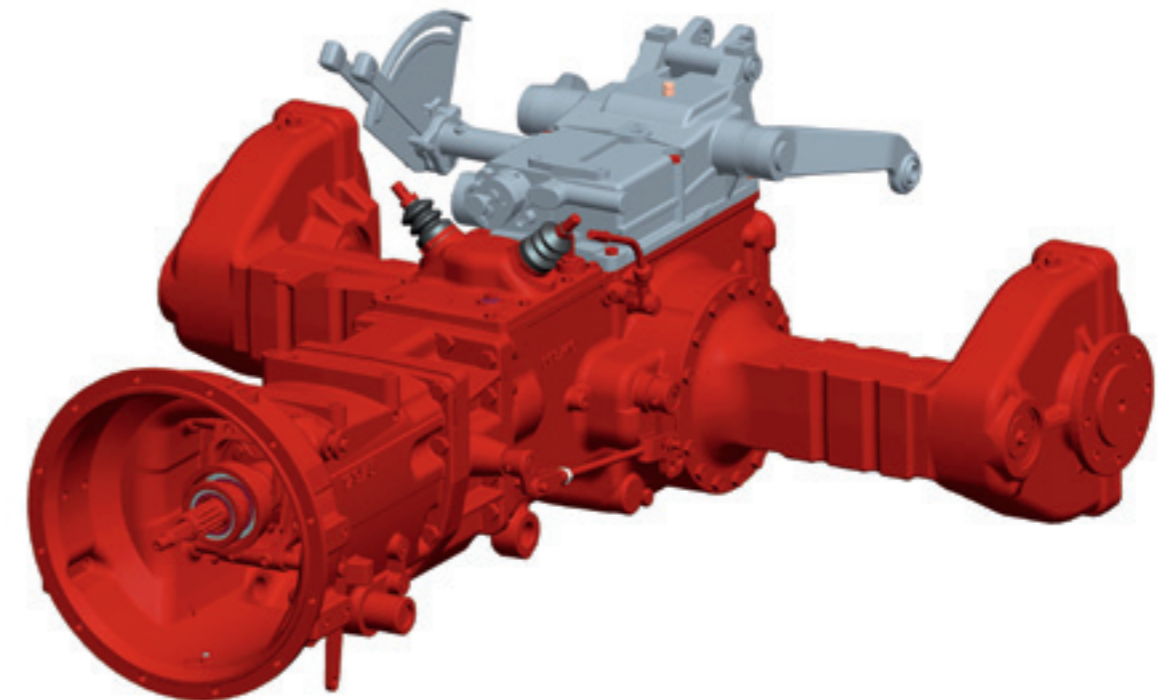
Total gear [fwd x rev]	8 x 2	8 x 8	16 x 4
Gear box forward split [gears x ranges]	4 x 2	4 x 2	4 x 2 x 2
Gear box shifting	Collar shift	Collar shift	Collar shift
Gear box reverse split [gears x ranges]	1 x 2	4 x 2	1 x 2 x 2
Reverse shifting	Constant mesh	Collar shift	Collar shift

### MAIN DATA

Flange to flange distance	<b>mm</b>	1368
Reference torque at rear axle	<b>Nm</b>	7800
Total tractor nallasted weight	<b>Kg</b>	1900
Maximum rear tire size		13.6 R 28
Rear tire index radius	<b>mm</b>	625
Rear lift capacity at lower link	<b>kN</b>	11
Total transaxle weight	<b>Kg</b>	470

### OPTIONS

1 or 2 PTO Speed, Gear synchro, Reverse sliding gear, 4WD



## T 4.0 Agricultural transaxle

- › Designed for tractors bound for the emerging markets for a power range up to 45 hp with a epiciclic final reduction providing in line wheel center axis
- › The two-axis design reduces dimensions, leaving ample room for the driver area
- › The basic version has 8 forward plus 2 reverse speeds and constant mesh “collar shift” gears, Premium option with synchro reverser provide the 8+8 transaxle version
- › The hydraulic lift draft, position and mixed control type, lift capacity 10,000 N, is designed for heavy attachments
- › The wet oil brakes are ball and ramp type mechanically operated, located aside of differential unit and maintenance free
- › The transmission is equipped with 100% differential lock controlled by a pedal
- › The optimal speed distribution between 2.6-30 Km/h allows smooth operation with the different attachments carried on the 3-point hitch or towed
- › 540 and 540/540E PTO speed controlled by a Single main clutch or with a double main clutch provide possibility to independently control the PTO versus the transmission
- › The SAE 4 clutch housing enables to interface a large options of different engines

### Advantages

- › Progressive gear change with the tractor on the go
- › The independent PTO at 540 rpm or 540/540E ideal for jobs with balers, rotary cultivators, etc
- › The independent PTO at 540 rpm or 540/540E allows for tractor stop during implement use

### Options

- › The factory fitted “Rice paddy” seals allow to work in difficult environments
- › The facility for mechanical-control 4WD take-off will add further versatility to the transaxle

## T 4.0

### INPUT DATA

Maximum transmission input net power	<b>kW</b>	31
	<b>HP</b>	42,2
Max engine speed at rated power	<b>rpm</b>	2000
Maximum input torque	<b>Nm</b>	184

### CONFIGURATION

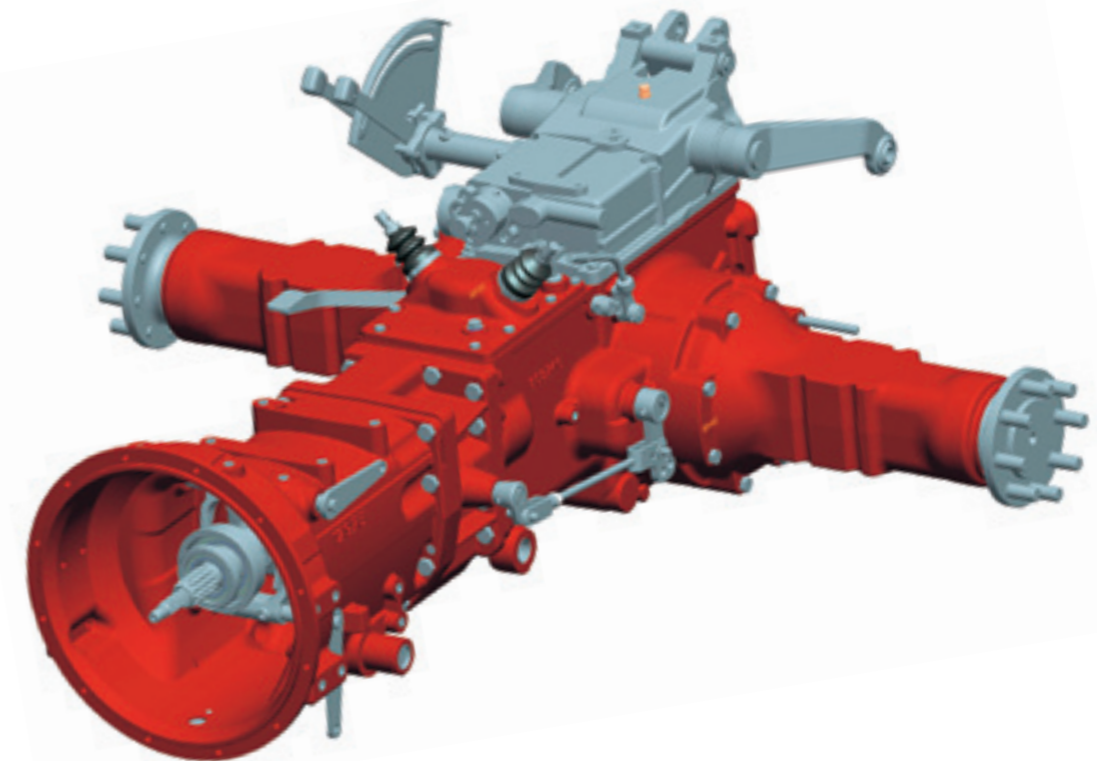
Total gear [fwd x rev]	8 x 2	8 x 8	16 x 4
Gear box forward split [gears x ranges]	4 x 2	4 x 2	4 x 2 x 2
Gear box shifting	Collar shift	Collar shift	Collar shift
Gear box reverse split [gears x ranges]	1 x 2	4 x 2	1 x 2 x 2
Reverse shifting	Constant mesh	Collar shift	Collar shift

### MAIN DATA

Flange to flange distance	<b>mm</b>	1368
Reference torque at rear axle	<b>Nm</b>	8584
Total tractor nallasted weight	<b>Kg</b>	2100
Maximum rear tire size		13.6 R 28
Rear tire index radius	<b>mm</b>	625
Rear lift capacity at lower link	<b>kN</b>	11
Total transaxle weight	<b>Kg</b>	470

### OPTIONS

1 or 2 PTO Speed, Gear synchro, Reverse sliding gear, 4WD



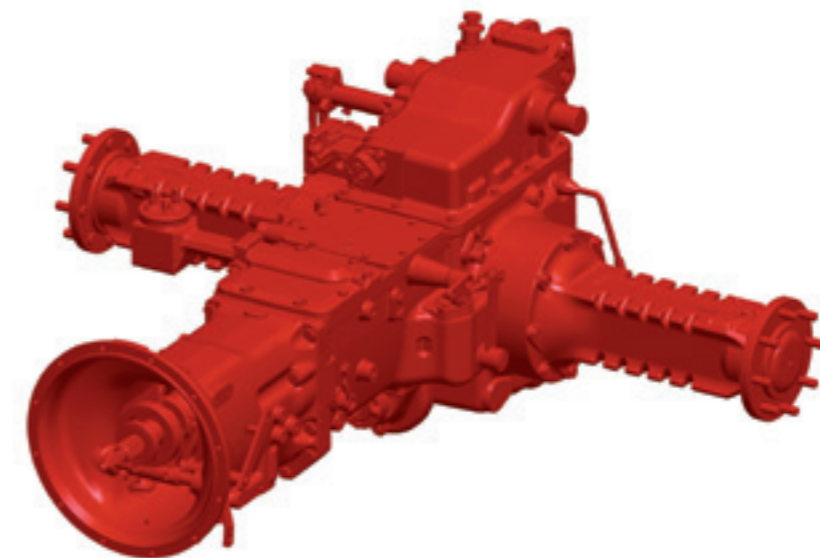
## T 5.0 Agricultural transaxle

- › The 2-shaft design reduces gearbox size and provides ample room in the driver area, significantly enhancing ergonomics and comfort
- › The basic configuration offers synchronized reverser
- › The basic version complete with synchronized constant mesh gears 8 forward / 8 reverse gears ensures driving comfort and reliability
- › The wet service brakes are designed to be virtually maintenance free and to last as long as the tractor
- › The basic version control is manual/mechanical
- › The ground drive rear power take-off (GDPTO), allows the attachment of a motor trailer, improving versatility and traction on slopes or muddy terrain
- › The independent rear PTO ideal for Vineyard/Orchard tractors and light duty STD's which are mainly used with attachments
- › The SAE 3 clutch housing ensures connection to different makes of diesel engine and satisfies the flexibility and brand image requirements of the various manufacturers

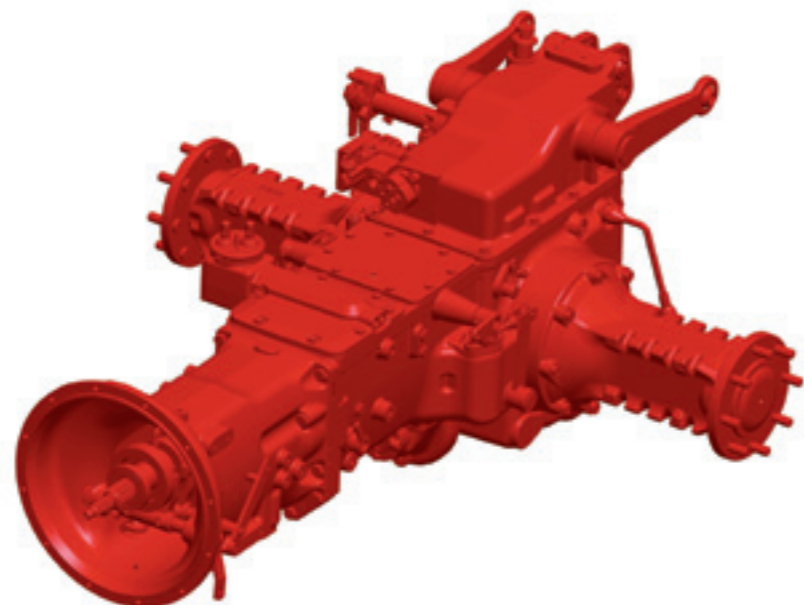
### Options

- › Hydraulic control is available on the version with suspended pedals for tractors with cabs, etc
- › 12 forward / 12 reverse or 24 forward /24 reverse gears, 30 km/h or 40 km/h
- › The central position 4WD box option incorporates the patented Easy-shift system and is available for the 40 km/h version
- › The rear PTO clutch disk can be supplied either in the “normally closed” or “normally open” version
- › The 540 rpm one-speed rear PTO is offered in the basic version, while the two speed 540/540E or 540/1000, available as an optional
- › The draft, position and mixed control hydraulic lift, together with descent speed and sensitivity control, is available as an optional
- › Clutch housing with special length and interface

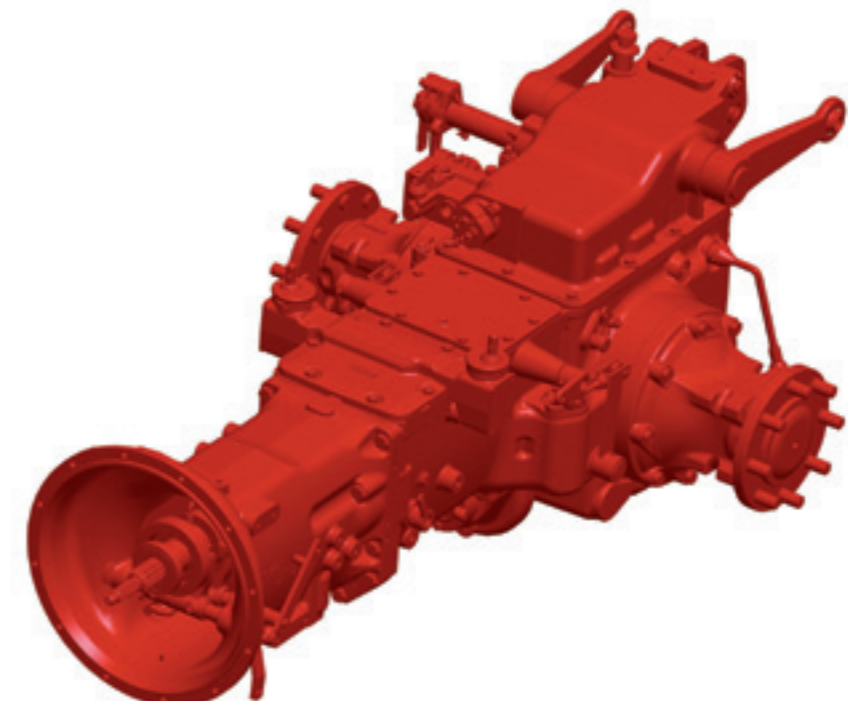
	<b>T 5.0</b>		<b>T 5.5</b>		<b>VaryT 5.5</b>				
<b>INPUT DATA</b>									
Maximum transmission input net power	<b>kW</b>	50		60		60			
	<b>HP</b>	68		81,6		81,6			
Max engine speed at rated power	<b>rpm</b>	2300		2300		2300			
Maximum input torque	<b>Nm</b>	272		324		324			
<b>CONFIGURATION</b>									
Total gear [fwd x rev]		8 x 8	12 x 12	24 x 24	8 x 8	12 x 12	24 x 24	24 x 12	<b>VaryT</b>
Gear box configuration [gears x ranges]		4 x 2	4 x 3	2 x 4 x 3	4 x 2	4 x 3	2 x 4 x 3	2 x 4 x 3	
Gear box shifting		Synchro gear / Collar shift range	Synchro gear / Collar shift range	Synchro gear / Collar shift range	Synchro gear / Collar shift range	Synchro gear / Collar shift range	Synchro gear / Collar shift range	Synchro gear / Collar shift range	
Gear box [hi-lo]		-	-	Synchro gear or Power shift	-	-	Synchro gear or Power shift	Power shift	
Gear box reverse shifting		Synchro gear	Synchro gear or Power shift	Synchro gear or Power shift	Synchro gear	Synchro gear or Power shift	Synchro gear or Power shift	Power shift	
<b>MAIN DATA</b>									
Flange to flange distance	<b>mm</b>	1540		1540		1540		1540	
Reference torque at rear axle	<b>Nm</b>	14900		17600		17600		17600	
Total tractor ballasted weight	<b>kg</b>	3240		3820		3820		3820	
Maximum rear tire size		16.9R30		16.9R30		16.9R30		16.9R30	
Rear tire index radius	<b>mm</b>	700		700		700		700	
Rear lift capacity at lower link	<b>kN</b>	26		26		26		26	
Total transaxle weight	<b>kg</b>	725		725		725		725	
<b>OPTIONS</b>									
1 or 2 PTO speed, Ground drive PTO / Mechanical or hydraulic: brakes actuation, rear diff lock actuation / Wet clutch PTO									



	<b>T 5.0 F</b>		<b>T 5.5 F</b>		<b>VaryT 5.5 F</b>			
<b>INPUT DATA</b>								
Maximum transmission input net power	<b>kW</b>	55		67		67		
	<b>HP</b>	74,8		91,2		91,2		
Max engine speed at rated power	<b>rpm</b>	2300		2300		2300		
Maximum input torque	<b>Nm</b>	297		360		360		
<b>CONFIGURATION</b>								
Total gear [fwd x rev]	8 x 8	12 x 12	24 x 24	8 x 8	12 x 12	24 x 24	24 x 12	<b>VaryT</b>
Gear box configuration [gears x ranges]	4 x 2	4 x 3	2 x 4 x 3	4 x 2	4 x 3	2 x 4 x 3	2 x 4 x 3	
Gear box shifting	Synchro gear / Collar shift range	Synchro gear / Collar shift range	Synchro gear / Collar shift range	Synchro gear / Collar shift range	Synchro gear / Collar shift range	Synchro gear / Collar shift range	Synchro gear / Collar shift range	
Gear box [hi-lo]	-	-	Synchro gear or Power shift	-	-	Synchro gear or Power shift	Power shift	
Gear box reverse shifting	Synchro gear	Synchro gear or Power shift	Synchro gear or Power shift	Synchro gear	Synchro gear or Power shift	Synchro gear or Power shift	Power shift	
<b>MAIN DATA</b>								
Flange to flange distance	<b>mm</b>	1240		1240		1240		
Reference torque at rear axle	<b>Nm</b>	14100		16100		16100		
Total tractor ballasted weight	<b>kg</b>	3200		3650		3650		
Maximum rear tire size		16,9 R28		16,9 R28		16,9 R28		
Rear tire index radius	<b>mm</b>	675		675		675		
Rear lift capacity at lower link	<b>kN</b>	26		26		26		
Total transaxle weight	<b>kg</b>	700		700		700		
<b>OPTIONS</b>								
1 or 2 PTO Speed, Ground drive PTO / Mechanical or hydraulic: brakes actuation, Rear diff lock actuation / Wet clutch PTO								



	<b>T 5.0 V</b>			<b>VaryT 5.0 V</b>	
<b>INPUT DATA</b>					
Maximum transmission input net power	<b>kW</b>	67			67
	<b>HP</b>	91,2			91,2
Max engine speed at rated power	<b>rpm</b>	2300			2300
Maximum input torque	<b>Nm</b>	360			360
<b>CONFIGURATION</b>					
Total gear [fwd x rev]	12 x 12	24 x 24	24 x 12		<b>VaryT</b>
Gear box configuration [gears x ranges]	4 x 3	2 x 4 x 3	2 x 4 x 3		
Gear box shifting	Synchro gear / Collar shift range	Synchro gear / Collar shift range	Synchro gear / Collar shift range		
Gear box [hi-lo]	-	Synchro gear or Power shift	Power shift		
Gear box reverse shifting	Synchro gear or Power shift	Synchro gear or Power shift	Power shift		
<b>MAIN DATA</b>					
Flange to flange distance	<b>mm</b>	890 or 970			890 or 970
Reference torque at rear axle	<b>Nm</b>	13080			13080
Total tractor ballasted weight	<b>kg</b>	3200			3200
Maximum rear tire size		13.6 R28			13.6 R28
Rear tire index radius	<b>mm</b>	625			625
Rear lift capacity at lower link	<b>kN</b>	26			26
Total transaxle weight	<b>kg</b>	680			680
<b>OPTIONS</b>					
1 Or 2 pto speed, ground drive pto / Mechanical or hydraulic: brakes actuation, rear diff lock actuation / Wet clutch pto / Creeper speed from 0,5 km/h					



# T 10.0 Agricultural Transaxle

- › The 2-shaft design reduces gearbox size and provides ample room in the driver area, significantly enhancing ergonomics and comfort
- › The basic configuration offers synchronized reverser ensuring easy and rapid reversal when manoeuvring in narrow spaces typical of orchards
- › The basic version complete with synchronized constant mesh gears 12 forward / 12 reverse gears ensures driving comfort and reliability, as well as significant tractor cost savings
- › The wet service brakes, situated near the differential and before the final reduction, are designed to be virtually maintenance free and to last as long as the tractor. The basic version control is manual/mechanical, while the hydraulic control is available as an optional on the version with suspended pedals for tractors with cabs, etc
- › The ground drive rear power take-off (GDP-TO), basic on the 12 forward / 12 reverse and 24 forward / 24 reverse gear versions, allows the attachment of a motor trailer, improving versatility and traction on slopes or muddy terrain
- › The independent rear PTO has been designed to transmit all the engine's power and is therefore ideal for Orchard tractors
- › The SAE 3 clutch housing ensures connection to different makes of diesel engine and satisfies the flexibility and brand image requirements of the various manufacturers

## Options

- › The wide range of optionals available, such as 8/12/24 gears, 30 km/h or 40 km/h and creeper, are designed to satisfy the needs of state-of-the-art, high productivity tractors
- › The central position 4WD box option, designed for 4WD front axles with central differential, incorporates the SAHR wet clutch which provides shifting on-the-go and under load, so as to obtain automatic braking on the four wheels when the brake pedals are engaged. The mechanical easy shift is also available as option
- › The twin dry disk central clutch control completes the supply
- › The differential lock achieved with an hydraulically-controlled wet multidisc clutch is available
- › The 540 rpm one-speed rear PTO is offered in the basic version, while the two speed 540/540E or 540/1000, available as an optional, enhances cost-convenience and versatility
- › The clutch housing with special length and interface can be supplied on request to satisfy specific vehicle architecture requirements

## T 10.0

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### INPUT DATA

Maximum transmission input net power	<b>kW</b>	77	77
	<b>HP</b>	104,7	104,7
Max engine speed at rated power	<b>rpm</b>	2200	2200
Maximum input torque	<b>Nm</b>	426	426

### CONFIGURATION

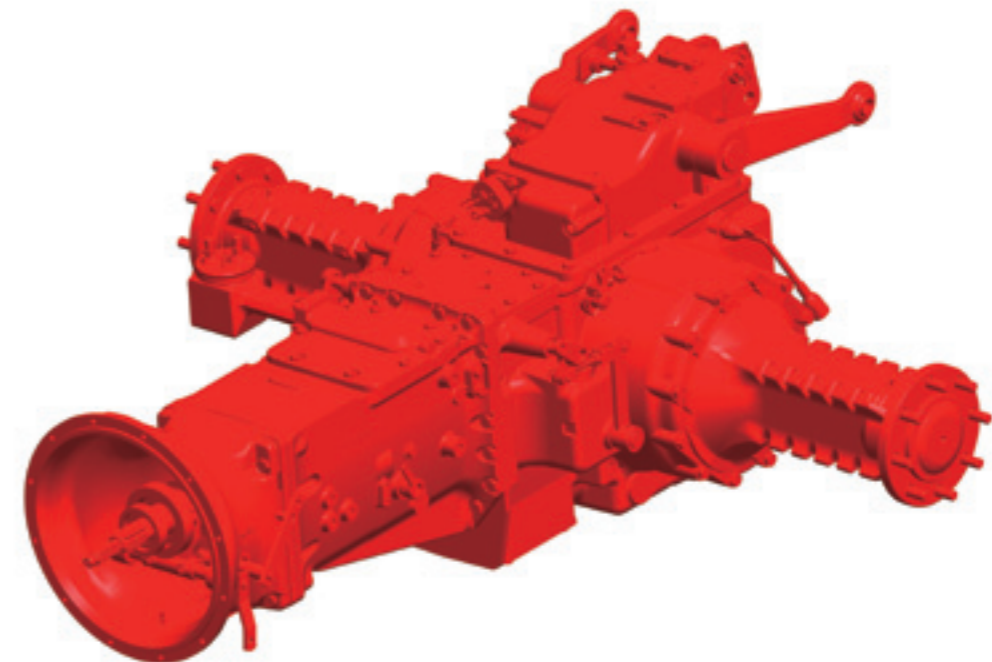
Total gear [fwd x rev]	12 x 12	24 x 24	24 x 12	<b>VaryT</b>
Gear box configuration [gears x ranges]	4 x 3	2 x 4 x 3	2 x 4 x 3	
Gear box shifting	Synchro gear / Collar shift range	Synchro gear / Collar shift range	Synchro gear / Collar shift range	
Gear box [hi-lo]	-	Synchro gear or Power shift	Power shift	
Gear box reverse shifting	Synchro gear or Power shift	Synchro gear or Power shift	Power shift	

### MAIN DATA

Flange to flange distance	<b>mm</b>	1540	1540
Reference torque at rear axle	<b>Nm</b>	29271	29271
Total tractor ballasted weight	<b>kg</b>	5775	5775
Maximum rear tire size		18.4 R34	18.4 R34
Rear tire index radius	<b>mm</b>	775	775
Rear lift capacity at lower link	<b>kN</b>	45	45
Total transaxle weight	<b>kg</b>	1150	1150

### OPTIONS

1 or 2 PTO speed, ground drive PTO / Mechanical or hydraulic: brakes actuation, Rear diff lock actuation / Wet clutch: PTO, MFWD, differential lock / Creeper speed from 0,5 km/h



# T 15.0 Agricultural Transaxle

- › Transmission with Dual Clutch architecture: the even gears are connected to one of the two clutches, and the odd gears to the other. When changing gear the electronic control pre-selects the required gear by means of the synchroniser, and therefore inverts the clutch transmitting the power.
- › Standard speeds range from 1.6 to 40 km/h. Maximum speed can be taken to 50 or 60 km/h simply by acting on the electronic control.
- › Possibility of changing 8 gears smoothly in Powershift mode with 4 robotised ranges, thereby avoiding range changes and clutch use in almost all field work.
- › The Power Reverse clutch, housed in the central part of the transmission, allows for a fully-automatic change of direction, without gear changes, thereby reducing repeated actions and cycle times.
- › Independent rear PTO, designed to transmit full engine power, resulting in speeds of 540/540E/1000 revs./min.
- › The electronic control uses an electrical-hydraulic clutch to manage the full transmission, guaranteeing the 4 drive wheels during braking and in any working conditions, as well as the differential locking.
- › The hydraulic system connected to the transmission can be open centre or closed centre, with a sensitive line. In both cases, significant oil flows, pressure and lifting capacity are obtained.
- › The rear axle contains two oil-cooled multi-disc brake units and a hydraulic actuator with power brake.
- › Electronic control lifter with dual external cylinders guaranteeing lifting capacity of 7500 kg.

## Options

- › The Supercreeper option allows for tractor use at speeds starting from 0.2 km/h. The specific overlay of the ranges also allows for the reaching of top speeds of 40 km/h, at just 1460 revs./min.
- › Ground speed PTO, available on an extra axis, with a rotation regime proportional to tractor speed and allowing for the connection of a motorised cart. This improves versatility and traction on uneven or rugged ground.

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### INPUT DATA

Maximum transmission input net power	<b>kW</b>	110	110
	<b>HP</b>	149,6	149,6
Max engine speed at rated power	<b>rpm</b>	2200	2200
Maximum input torque	<b>Nm</b>	677	677

### CONFIGURATION

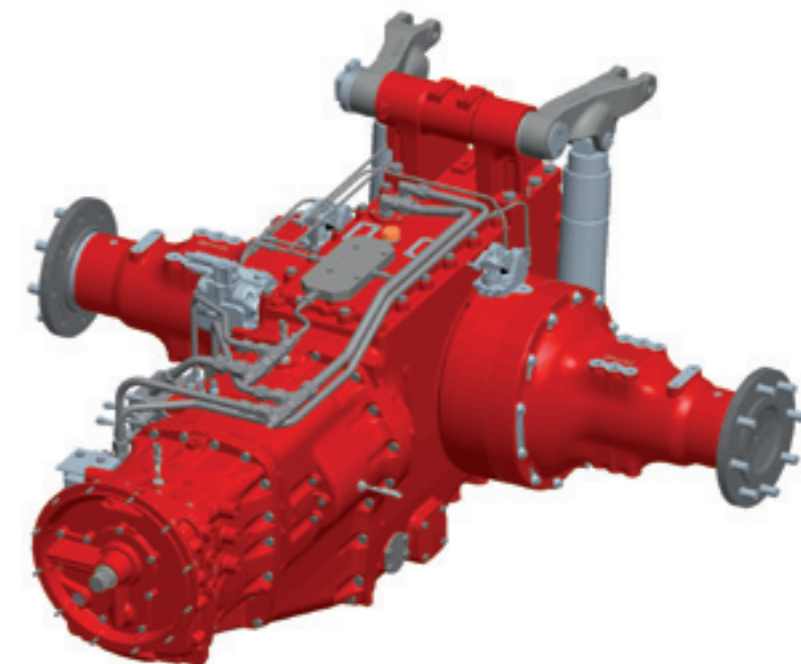
Total gear [fwd x rev]	24 x 24	32 x 32	<b>VaryT</b>
Gear box configuration [gears x ranges]	4PS x 3 x 2	8PS x 4	
Gear box shifting	Power shift gear (dual clutch design) / Robotized gear synchro ranges	Power shift gear (dual clutch design) / Robotized gear synchro ranges	
Gear box [hi-lo ranges]	Collar shift	-	
Gear box reverse shifting	Power shift	Power shift	

### MAIN DATA

Flange to flange distance	<b>mm</b>	1890	1890
Reference torque at rear axle	<b>Nm</b>	47211	47211
Total tractor ballasted weight	<b>kg</b>	8250	8250
Maximum rear tire size		20.8 R38	20.8 R38
Rear tire index radius	<b>mm</b>	875	875
Rear lift capacity at lower link	<b>kN</b>	75	75
Total transaxle weight	<b>kg</b>	1980	1980

### OPTIONS

3 PTO speed, Ground drive PTO / Super creeper speed from 0,2 km/h



# Electronic Control Unit

## TRAX

### Transmission Advanced Control System

Vehicle responsiveness customization	Software configurable by customer needs Standard clutch modulation setups available for maximum operating comfort and high vehicle responsiveness
Prevention autodiagnostic system	All transmission functions over ECU continuous monitoring for maximum operator safety Alarm / Error signal for excessive working parameters and wrong inputs / Safety Management SIL1/ISO13849 Perf. level C
Auxiliary functions	Data interchange with other on board electronics (i.e. dashboard) available Standard CAN J1939, Diagnostic interface for diagnosis and service

## General

Operating Temperature	- 40 / + 85 °C
Storage Temperature	- 40 / + 85 °C
Protection Rating	IP 67

## Electrical

Nominal Supply Voltage	12 Vdc
Analog Voltage Input Range	0 / 5 Vdc
Rated Digital Output Current	2 A
Rated PWM Output Current	2 A
Rated PWM Output Frequency	4 kHz
Superimposed Dither Frequency	SW-adjustable
Superimposed Dither Amplitude	SW-adjustable
Serial Interface Communication	RS232, asynchronous, one CAN interface according to SAE J1939 / ISO 11783 / ISO 11898

## Housing

Electrical Connections	56 pins board-mounted
Housing Material	High temperature nylon (Black)
Weight	0.25 Kg (for reference only)

# Axles

# Axles for agricultural applications

- › The most complete range of steering drive axles designed for tractor power ratings from 35 to 350 HP
- › Wide range of ratios and track widths provides flexibility to virtually meet any application
- › Optimized monolithic design ensures maximum strength under high loads
- › Robust gear design for longer life and improved durability
- › Extreme adaptability to the final user's most different needs thanks to the large number of options available
- › High standardization of the subcomponents adopted allows customers and dealers to make significant saving in spare parts storage space
- › Simplicity and rapidity of servicing thanks to the rational arrangement of the subcomponents which do not require special tooling

## Features

- › Robust monolithic structure
- › Steering Angle up to 55°
- › Optimized steering geometry

## Advantages

- › Precision steering
- › Greater productivity
- › Reduced maintenance
- › Easy service

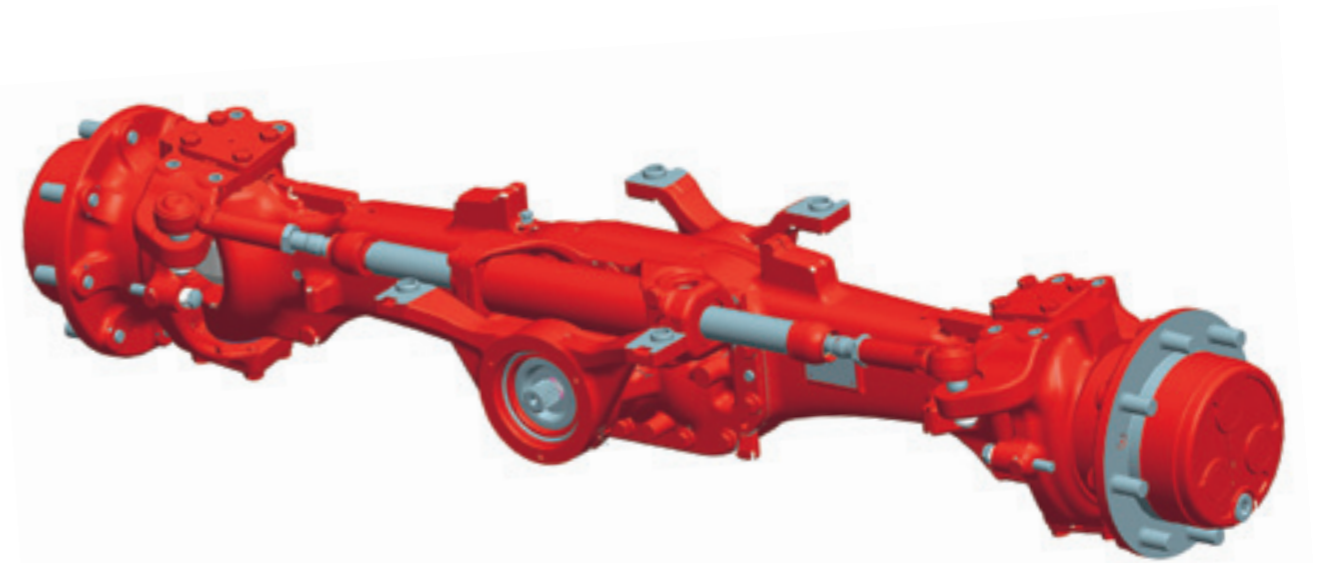
## Options

- › Oil immersed disc brakes
- › Self Locking and Multi disc differential lock
- › Integrated steering sensor
- › Long life lubricated U-joints and availability of waterproof seals

	20.08	20.09	20.16	20.19	20.25	20.32	20.45	20.50	20.60	20.80
<b>Input Engine Power (ECE R24)</b>	63 kW 85,7 HP	63 kW 85,7 HP	74 kW 100,6 HP	81 kW 110,2 HP	103 kW 140,1 HP	132 kW 179,5 HP	151 kW 205,4 HP	191 kW 259,8 HP	230 kW 312,8 HP	260 kW 353,6 HP
<b>Peak Torque @ Wheels</b>	11,2 kNm	12,6 kNm	22,4 kNm	26,6 kNm	35 kNm	44,8 kNm	63 kNm	70 kNm	84 kNm	112 kNm
<b>Total Ratio</b>	6,5:1-16,8:1	8:1-21:1	10:1-21:1	12:1-21:1	12:1-21:1	12:1-21:1	12:1-21:1	12:1-21:1	12:1-21:1	14:1-22:1
<b>Dynamic Load Capacity*</b>	24 kN	24 kN	36 kN	44 kN	65 kN	75 kN	80 kN	85 kN	95 kN	110 kN
<b>Static Load Capacity**</b>	60 kN	60 kN	90 kN	110 kN	170 kN	190 kN	200 kN	210 kN	235 kN	275 kN
<b>Flange to Flange Distance</b>	925 mm	930 mm	1175 mm 1325 mm 1460 mm 1640 mm	1640 mm 1800 mm	1800 mm	1900 mm	1900 mm	1900 mm	1900 mm	1890 mm
<b>Brakes</b>	none	Wet multi-disc (optional)	Wet multi-disc (optional)	Wet multi-disc (optional)	Wet multi-disc (optional)	Wet multi-disc (optional)	Wet multi-disc (optional)	Wet multi-disc (optional)	Wet multi-disc (optional)	Wet multi-disc (optional)
<b>Differential</b>	Limited slip system Mechanical diff. lock (optional)	Limited slip system Mechanical diff. lock (optional)	Limited slip system Mechanical diff. lock (optional)	Limited slip system Wet clutch diff. lock (optional)	Limited slip system Wet clutch diff. lock (optional)	Limited slip system Wet clutch diff. lock (optional)	Limited slip system Wet clutch diff. lock (optional)	Limited slip system Wet clutch diff. lock (optional)	Limited slip system Wet clutch diff. lock (optional)	Limited slip system Wet clutch diff. lock (optional)
<b>Steering Sensor</b>	Optional	Optional	Optional	Optional	Optional	Optional	Optional	Optional	Optional	Optional

\* Front loader operation

\*\* Ballasted vehicle & without implements



# Axles with independent and electronically controlled suspension

- › A wide range of axles from 70 to 200 HP
- › A new integrated and revolutionary system of independent suspension with position control (patented by Carraro)
- › This system marks a radical development in the fourwheel drive market by ensuring the absorption of shocks induced to the vehicle by harsh ground conditions
- › The wheels, independently supported by a double wishbone, maintain the vehicle's set up even on rough terrain, while the hydro-pneumatic suspension provides a damping effect with wide load variation
- › This range of axles is completely interchangeable with the traditional type and does not require any modification to the chassis or transmission shaft

## Features

- › Suspension range +/- 45 mm
- › Max pressure of control system 180 bar
- › Improved grip (+70% vs. rigid axle at sprung mass frequency)
- › Improved damping capacity
- › Self-trimming function
- › Suspension lock up

## Advantages

- › Better handling
- › Precision steering
- › Higher cross-country speeds
- › Greater productivity
- › Greater comfort
- › Greater safety

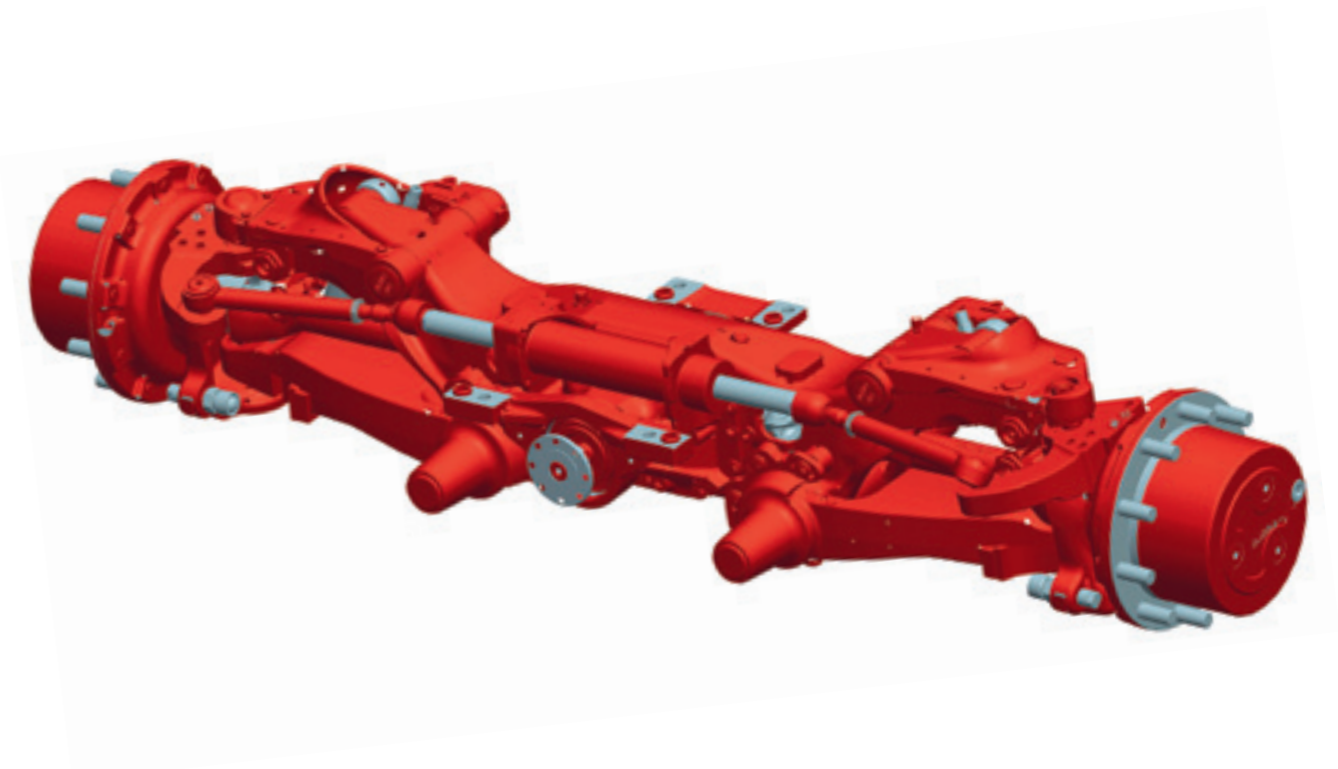
## Options

- › Oil immerseed disc brakes
- › Multi disc differential lock
- › Integrated steering sensor

	20.16SI	20.19SI	20.25SI	20.32SI	20.45SI
Input Engine Power (ECE R24)	74 kW 100,6 HP	81 kW 110,2 HP	103 kW 140,1 HP	132 kW 179,5 HP	151 kW 205,4 HP
Peak Torque @ Wheels	22,4 kNm	26,6 kNm	35 kNm	44,8 kNm	63 kNm
Total Ratio	10:1 - 21:1	10:1 - 21:1	10:1 - 21:1	12:1 - 21:1	12:1 - 21:1
Dynamic Load Capacity*	36 kN	44 kN	65 kN	75 kN	80 kN
Static Load Capacity**	90 kN	110 kN	170 kN	190 kN	200 kN
Flange to Flange Distance	1640 mm	1800 mm	1800 mm	1900 mm	1900 mm
Brakes	Optional	Optional	Optional	Optional	Optional
Differential	Limited slip system Wet clutch diff. lock (optional)	Limited slip system Wet clutch diff. lock (optional)	Limited slip system Wet clutch diff. lock (optional)	Limited slip system Wet clutch diff. lock (optional)	Limited slip system Wet clutch diff. lock (optional)
Steering Sensor	Optional	Optional	Optional	Optional	Optional

\* Front loader operation

\*\* Ballasted vehicle & without implements



# The Power Transmission Excellence is our Passion

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Project related installation drawings  
can be made available on request as dimensions  
and technical data are subject to change  
due to continuous development.



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