



卡拉罗集团介绍

Introduction Carraro Group

卡拉罗集团是一家跨国企业,是全球动力传动系统领域的领军人。公司业务核心是设计、制造和销售先进的传动产品并提供整体传动系统解决方案,产品广泛应用于工程机械设备、农用拖拉机、物料搬运设备、轻型商用车、汽车、可再生能源及固定式设备(例如扶梯和风力发电机)。

卡拉罗集团总部位于意大利帕多瓦省Campodarsego市,集团的控股公司卡拉罗股份公司,于1995年在意大利证券交易所挂牌。集团在意大利、德国、阿根廷、美国、印度和中国均设有制造工厂。

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.

集团业务

The Group Business Areas

(CARRARO DRIVETECH

综合性解决方案(车桥、变速箱、终端和回旋式 传动装置),应用领域包括:矿山机械、工程机 械、农用拖拉机、轻型商用车、物料搬运和固定 式设备(如扶梯和风力发电机)。

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).



GearWorld

A Carraro Group Company

各种尺寸的钢齿轮,烧结零部件和齿轮,产品应用于铲运机械、农用拖拉机、汽车、轻型商用车、两轮汽车、动力工具、园林机械、铁路及工业领域,还可以应用于风能和太阳能领域。

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



(CARRARO AGRITALIA

设计和生产50至100马力的普通和果园用拖拉机。提供全方位技术服务,业务包括一般技术咨询到"交钥匙"工程。

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.



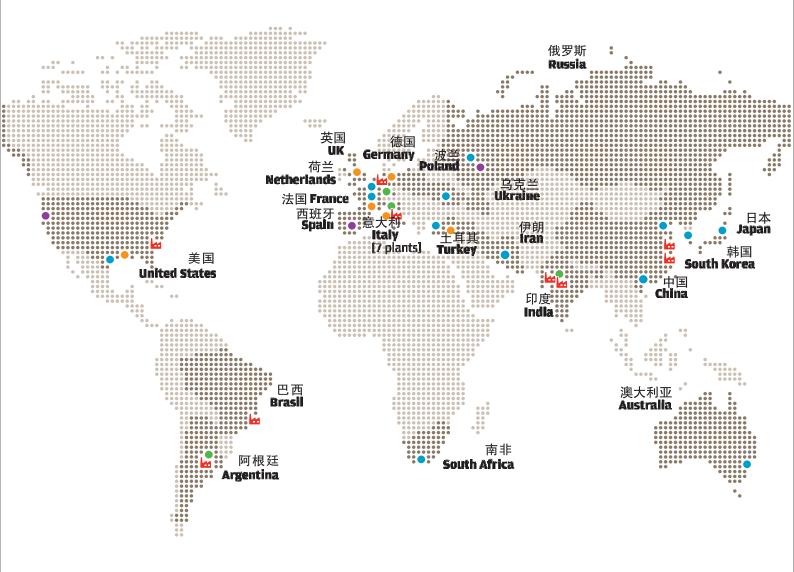


逆变器和动力控制、换频器,用于工业厂房、自动化设备、可再生能源管理(光伏和风能)、混合动力车辆动力系统的电子应用。

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



全球分布 Global footprint Where we are



说明	HIGHLIGHTS
₩ 制造工厂	Manufacturing sites
● 分支	Branches
● 研发中心	Engineering Centers
● 经销商	Dealers
● 售后服务	中心 Service providers

卡拉罗传动技术 动力传动系统和减速机 Carraro Drive Tech Drivelines & Drives

卡拉罗传动技术公司负责卡拉罗集团核心业务,设计制造并销售动力传动系统、车桥和变速箱、行走和切削减速机及电子控制单元。

无论是非公路还是公路车辆,卡拉罗传动技术公司都会提供综合性传动系统解决方案,为农业机械、建筑机械、矿山机械和物料搬运机械提供全方位、 多样化的产品支持。

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.

卡拉罗动力传动系统为每个市场的应用特别优化定制,以保证产品的性能水平并提供最实用的设计布局。

卡拉罗的产品将刚性和转向车桥相结合,并搭配机械、自动或半自动变速箱,使产品得到广泛应用。 产品专门设计成在先进电子控制单元监控下的机械和液压一体化系统,能在监控和诊断车辆功能的同时更好的掌控整个动力传动系统。

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.

解决方案

Our solutions



Shift transmissions for Construction Equipment, transaxles for Agricultural tractors, also with VaryT version

卡拉罗传动技术 农用机械传动系统

Carraro Drive Tech Drivelines for agricultural applications

卡拉罗传动技术公司的农用产品范围包括应用于拖 拉机的传统和悬挂式车桥(35~350HP),以及 各式变速箱(最大可达150马力)。我们的设计旨 在满足农用器具、土地翻新等不同需求, 可在任何 天气状况下运行。卡拉罗的传动系统能让农用机械 发挥出最佳效能。

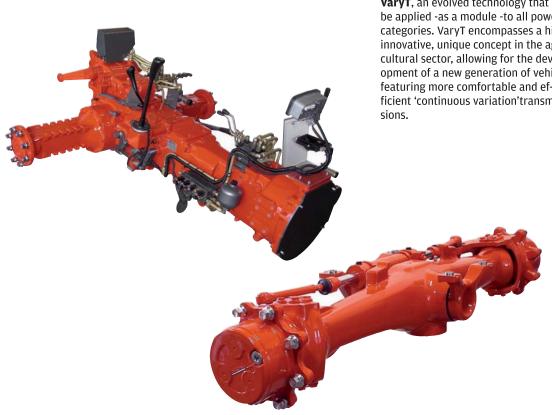
The Carraro Drive Tech range for agricultural use includes traditional or suspended axles for tractors, with engines of between 35 and 350 HP, coupled with a range of transmissions up to 150 HP. Designed to meet di erent needs (crop types, land dynamics, manoeuvring room, etc.) and to work in all weather conditions, the Carraro transmission systems guarantee performance that will maximise the productivity of the agricultural machines on which they are used.

精准的电子控制系统操作简单,从而使整个动力传 动系统易于管理、方便使用并且性能高效。因此具 有低损耗、环保等特点。

卡拉罗的农用产品由于持续扭矩技术(VaryT)的 应用而不断扩展,这种新一代的技术,可以作为一 个模块应用于所有动力类产品。VaryT为农业领域 带来了一种高度创新、独特的理念, 配备它的农用 车辆将成为新一代车辆,更加舒适并拥有高效"持 续变化"的传动。

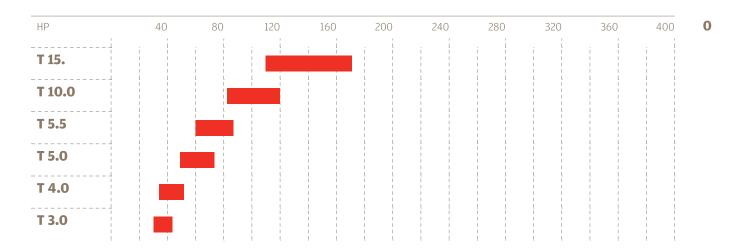
Thanks to a sophisticated, yet userfriendly electronic control system, the whole powertrain is managed excellently, both in terms of usability and efciency. Consumptions and environmental impact are thereby drastically reduced.

The Carraro range of agricultural transmissions is further increased with **VaryT**, an evolved technology that can be applied -as a module -to all power categories. VaryT encompasses a highly innovative, unique concept in the agricultural sector, allowing for the development of a new generation of vehicles, featuring more comfortable and efficient 'continuous variation'transmissions.

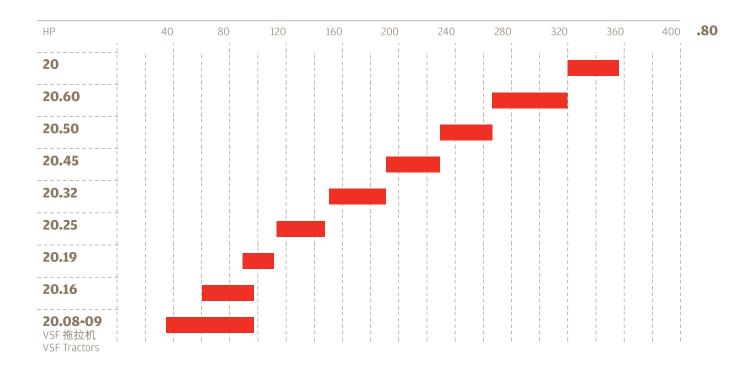


广泛的农用产品应用范围 Our wide agricultural range

变速箱 Transmissions



车桥 Axles





变速箱 Transmissions

T3.0 农用拖拉机底盘 T3.0 Agricultural transaxle

- > 该设计是为拖拉机新兴市场量身定做,最高动力可达 42马力,提供车轮中心轴偏置的主降速
- > 双轴设计减小了底盘本身的大小,为驾驶区域留足了空间
- > 基本版为8个前进档加2个后退档,外加常啮合"啮合套换档",可以大大降低成本,带有同步反向器的高级可选项可以提供8+8底盘版本
- > 提升能力为10000牛的液压升降牵引、定位、混合控制型,是专为大型拖挂部件而设计,可以减少操作时间
- > 由机械操作的"滚珠和斜面"湿式制动器,定位于减速单元前,靠近差速器,无需维护
- > 机械化踏板控制的差速锁定装置,即使是在崎岖的地形,也可以确保最佳的抓地力
- > 2.6~32公里/小时的最佳速度分布,保证了三点悬挂上或拖挂上不同部件的顺利运作
- > 由单主离合器或双主离合器控制的动力输出轴转速为 540和540/540E,可以独立控制动力输出轴与变速器
- 可以与不同发动机相连的SAE4离合器外壳,满足了不同的制造商对产品灵活性和外观的要求
- Designed for tractors bound for the emerging markets for a power range up to 42 hp with a drop final reduction providing of-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 3point hitch or towed
- > 540 and 540/540E PTO speed controlled by a Single main clutch or with a double main clutch provide possibility to indipendently control the PTO versus the transmission
- The SAE 4 clutch housing interfaces with different engine makes and satises the need for flexibility and image demanded by the various manufacturers

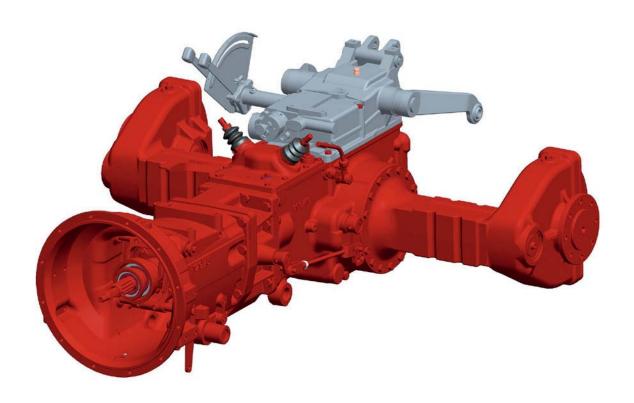
优点 Advantages

- > 顺序变速装置随着拖拉机移动而变化
- > 转速为540转 / 分或540/540E的独立式动力输出轴非常适合打捆机和旋耕机
- 转速为540转/分或540/540E的独立式动力输出轴,使拖拉机在农具使用过程中也可以停止
- > Progressive gear change with the tractor on the go
- The indipendent PTO at 540 rpm or 540/540E ideal for jobs with balers, rotary cultivators, etc
- The indipendent PTO at 540 rpm or 540/540E allows for tractor stop during implement use

- > 在工厂配备的"稻田"密封使拖拉机可以在恶劣环境中工作
- > 机械控制的四轮驱动动力输出装置将进一步提高底盘的多功 能性
- > The factoryfitted "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		• • • • •			
最大传动输入净功		kW	25,5		
Maximum transn	nission input net power	HP	34,7		
额定功率下最大发 Max engine spee		rpm	2000		
最大输入扭矩 Maximum input t	orque	Nm	149		
配置 CONFIGURATIOI	N.				
总档位 [前进×后退]	Total gear [fwd x rev]		8 x 2	8 x 8	16 x 4
变速箱前进分离 [齿轮×范围]	Gear box forward split [gears x ranges]		4 x 2	4 x 2	4 x 2 x 2
变速箱换档	Gear box shifting		啮合套换档 Collar shift	啮合套换档 Collar shift	啮合套换档 Collar shift
变速箱后退分离 [齿轮×范围]	Gear box reverse split [gears x ranges]		1 x 2	4 x 2	1 x 2 x 2
倒车档	Reverse shifting		常啮合 Constant mesh	常啮合 Constant mesh	常啮合 Constant mesh
主要数据 MAIN DATA					
法兰到法兰的距离	Flange to flange distance	mm	1368		
参考后桥扭矩	Reference torque at rear axle	Nm	7800		
拖拉机总配重	Total tractor nallasted weight	Kg	1900		
最大后轮尺寸	Maximum rear tire size		13.6 R 28		
后轮指数半径	Rear tire index radius	mm	625		
下拉杆后轮提升力	Rear lift capacity at lower link	kN	11		
底盘总重量	Total transaxle weight	Kg	470		
可选项 OPTIONS					
		-	於IV計 1 or 2 DTO Sn	eed, Gear synchro, Reverse	n cliding goar AWD



T4.0 农用拖拉机底盘 T4.0 Agricultural transaxle

- > 该设计是为新兴市场的拖拉机而量身定做,拥有最高 达45马力的动力,提供车轮中心轴偏置的主降速
- > 双轴设计减小了尺寸,为驾驶区域留足了空间
- 基本版为8个前进档加2个后退档,以及常啮合"啮合套换档",可以大大降低成本,带有同步反向器的高级可选项可以提供8+8底盘版本
- > 提升能力为10000牛的液压升降牵引、定位、混合控制型,是专为大型拖挂部件而设计,可以减少操作时间
- > 变速箱配有机械化踏板控制的100%差速器锁
- > 2.6~30公里/小时的最佳速度分布,保证了三点悬挂 上或拖挂上不同部件的顺利运作
- 由单主离合器或双主离合器控制的动力输出轴转速为 540和540/540E,可以独立控制动力输出轴与变速器
- > SAE4离合器外壳可以连接不同发动机
- 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 indipendently control the PTO versus the transmission
- > The SAE 4 clutch housing enables to interface a large options of different engines

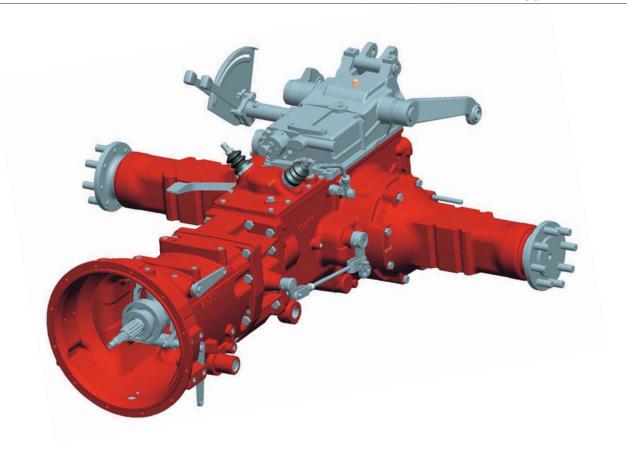
优点 Advantages

- > 顺序变速装置随着拖拉机移动而变化
- > 转速为540转 / 分或540/540E的独立式动力输出轴非常适合打捆机和旋耕机。
- > 转速为540转 / 分或540/540E的独立式动力输出轴, 使拖拉机在农具使用过程中也可以停止
- > Progressive gear change with the tractor on the go
- The indipendent PTO at 540 rpm or 540/540E ideal for jobs with balers, rotary cultivators, etc
- The indipendent PTO at 540 rpm or 540/540E allows for tractor stop during implement use

- > 在工厂配备的"稻田"密封使拖拉机可以在恶劣环境中工作
- > 机械控制的四轮驱动动力输出装置将进一步提高底盘的多功能性
- > The factoryfitted "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

Maximum transmission input net power Max engine speed at rated power 最大策分机转速 rpm 2000 Max engine speed at rated power 最大策分机转速 rpm 2000 Maximum input torque RE CONFIGURATION Total gear [fivd x rev] 变速箱前进分离 [gears x ranges] 变速箱前进分离 [gears x ranges] 变速箱前进分离 [gears x ranges] 变速箱后退分离 [gears x ranges] 数准性 Reverse shifting 增益合金换性 Collar shift 增合金换性 Collar shift 增合金换性 Collar shift 增合金换性 Collar shift 增加 数据	最大传动输入净功率	ξ	kW	31		
Ric 中 下 で で で で で で で で で で で で で で で で で で			HP	42.2		
Reference torque at rear axle 版力的 Rear lift capacity at lower link か Rear lift capacity at lower link か Rear lift capacity at lower link か Rear lift capacity at lower link Rear lift capacity at lo			rpm	<u> </u>		
での下IGURATION お		rque	Nm	184		
「前进×后退] 「「「「「「「「「「「「「「「」」」」」」」」」」						
[齿轮×范围] [gears x ranges] 变速箱换档 Gear box shifting 啮合套换档 Collar shift 電本套换档 Collar shift 電本套换件 Collar shift 電本表件 Collar shift 電本表件 Collar shift 電本表件 Collar shift and collar shift		O .		8 x 2	8 x 8	16 x 4
要速箱后退分离 [gears x ranges] 1 x 2 4 x 2 1 x 2 x 2 [gears x ranges] 常啮合 Constant mesh 常齿合 Constant mesh 结果 constant mesh 结果 constant mesh 含 Constan		-		4 x 2	4 x 2	4 x 2 x 2
[gears x ranges] 【始轮 x 范围] [gears x ranges] 【相称 Reverse shifting 常啮合 Constant mesh 常齿合 Constant mesh 结构 Constant mesh 结构 Constant mesh 常齿合 Constant mesh 含 Cons		Gear box shifting		啮合套换档 Collar shift	啮合套换档 Collar shift	啮合套换档 Collar shift
主要数据 MAIN DATAHard constant mean in all co		•		1 x 2	4 x 2	1 x 2 x 2
MAIN DATA 法兰到法兰的距离 Flange to flange distance mm 1368 参考后桥扭矩 Reference torque at rear axle Nm 8584 拖拉机总配重 Total tractor nallasted weight Kg 2100 最大后轮尺寸 Maximum rear tire size 13.6 R 28 后轮指数半径 Rear tire index radius mm 625 下拉杆后轮提升力 Rear lift capacity at lower link kN 11		Reverse shifting		常啮合 Constant mesh	常啮合 Constant mesh	常啮合 Constant mesh
参考后桥扭矩 Reference torque at rear axle Nm 8584 hb拉机总配重 Total tractor nallasted weight Kg 2100 最大后轮尺寸 Maximum rear tire size 13.6 R 28 hb轮指数半径 Rear tire index radius mm 625 hbhrhfhex提升力 Rear lift capacity at lower link kN 11						
施拉机总配重 Total tractor nallasted weight Kg 2100 最大后轮尺寸 Maximum rear tire size 13.6 R 28 后轮指数半径 Rear tire index radius mm 625 下拉杆后轮提升力 Rear lift capacity at lower link kN 11	去兰到法兰的距离(Flange to flange distance	mm	1368		
最大后轮尺寸 Maximum rear tire size 13.6 R 28 后轮指数半径 Rear tire index radius mm 625 下拉杆后轮提升力 Rear lift capacity at lower link kN 11	参考后桥扭矩 1	Reference torque at rear axle	Nm	8584		
后轮指数半径 Rear lift capacity at lower link kN 11	拖拉机总配重 7	Total tractor nallasted weight	Kg	2100		
下拉杆后轮提升力 Rear lift capacity at lower link kN 11	最大后轮尺寸 「	Maximum rear tire size		13.6 R 28		
	后轮指数半径 I	Rear tire index radius	mm	625		
底盘总重量 Total transaxle weight Kg 470	下拉杆后轮提升力	Rear lift capacity at lower link	kN	11		
	庆盘总重量	Total transaxle weight	Kg	470		
	可选项 OPTIONS					



T5.0 农用拖拉机底盘 T5.0 Agricultural transaxle

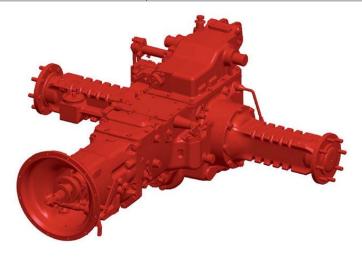
- > 双轴设计减小了齿轮箱的尺寸,提供足够的驾驶空间,大大提高了人体工程学性能和舒适度
- > 基本配置提供同步换向器
- > 基本型配备有同步常啮合8个前进档/8个后退档,确保了驾驶舒适性和可靠性
- > 湿式行车制动器基本无需维护,使用寿命与拖拉机等长
- > 基本型既可手动控制,也可机械控制
- 地轴传动后置动力输出装置(GDPTO),使拖拉机可以拖挂一个动力拖车,提高了在斜坡或者泥泞地形上的活动性和牵引力
- > 独立式后置动力输出轴非常适合葡萄园/果园拖拉机和 用于拖挂的轻型STD
- > SAE 3离合器外壳可以连接不同类型的柴油机,满足不同制造商对产品的灵活性和品牌形象的要求
- 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 satises the flexibility and brand image requirements of the various manufacturers

- > 有驾驶室的拖拉机带有悬挂踏板,液压控制
- > 12个前进档/ 12个后退档或24个前进档/ 24个后退档, 30公里/小时或40公里/小时
- > 处于中心位置的四轮驱动箱(可选项)带有已经申请专利 的轻松换档系统,40公里/小时的版本中就有此系统
- 后置动力输出离合器盘既可以用在"常闭"也可以用在 "常开"版本上
- > 基本型具有转速为540转/分的单速后置动力输出轴,也有 双速540/540E或540/1000可供选择
- > 可以选择:牵引、定位、混合控制的液压升降,降速及灵 敏度控制
- > 具有特殊长度和接口的离合器外壳
- 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

		T 5.0			T 5.5				VaryT 5.5
输入数据 INPUT DATA									
最大传动输入净功率	kW	50			60				60
Maximum transmission input net power	HP	68			81,6				81,6
额定功率下最大发动机转速 Max engine speed at rated power	rpm	2300			2300				2300
最大输入扭矩 Maximum input torque	Nm	272			324				324
配置 CONFIGURATION									
总档位 Total gear [前进×后退] [fwd x rev]		8 x 8	12 x 12	24 x 24	8 x 8	12 x 12	24 x 24	24 x 12	VaryT
变速箱配置 Gear box configuration [齿轮×范围] [gears x ranges]	1	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	
变速箱换档 Gear box shifting		同步传动/ 啮合套 换档范围 Synchro gear / Collar shift range							
变速箱 [高–低] Gear box [hi-lo]		-	-	同步传动/ 动力换档 Synchro gear or Power shift	-	-	同步传动/ 动力换档 Synchro gear or Power shift	动力换档 Power shift	-
变速箱倒车档 Gear box reverse shifting		同步传动 Synchro gear	同步传动/ 动力换档 Synchro gear or Power shift	同步传动/ 动力换档 Synchro gear or Power shift	同步传动 Synchro gear	同步传动/ 动力换档 Synchro gear or Power shift	同步传动/ 动力换档 Synchro gear or Power shift	动力换档 Power shift	_
主要数据 MAIN DATA									
法兰到法兰的距离 Flange to flange distance	mm	1540			1540				1540
参考后桥扭矩 Reference torque at rear axle	Nm	14900			17600				17600
拖拉机总配重 Total tractor ballasted weight	kg	3240			3820				3820
最大后轮尺寸 Maximum rear tire size		16.9R30			16.9R30				16.9R30
后轮指数半径 Rear tire index radius	mm	700			700				700
下拉杆后轮提升力 Rear lift capacity at lower link	kN	26			26				26
底盘总重量 Total transaxle weight	kg	725			725				725

可选项 OPTIONS

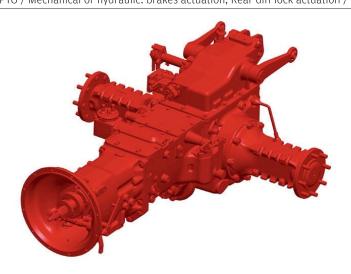
1或2动力输出速率,地轴传动动力输出/机械式或液压式:制动启动,后置差速器锁启动/湿式离合器动力输出 1 or 2 PTO speed, Ground drive PTO / Mechanical or hydraulic: brakes actuation, rear diff lock actuation / Wet clutch PTO



		T 5.0	F		T 5.5	F			VaryT 5.5 F
輸入数据 INPUT DATA									
———————————————————— 最大传动输入净功率	kW	55			67				67
Maximum transmission input net power	HP	74,8			91,2				91,2
额定功率下最大发动机转速 Max engine speed at rated power	rpm	2300			2300				2300
最大输入扭矩 Maximum input torque	Nm	297			360				360
配置 CONFIGURATION									
总档位 Total gear 前进×后退] [fwd x rev]		8 x 8	12 x 12	24 x 24	8 x 8	12 x 12	24 x 24	24 x 12	VaryT
变速箱配置 Gear box configuration 齿轮×范围] [gears x ranges]	1	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	-
变速箱换档 Gear box shifting		同步传动/ 啮合套 换档范围 Synchro gear / Collar shift range	-						
变速箱 高−低] G ear box hi-lo]		-	-	同步传动/ 动力换档 Synchro gear or Power shift	-	-	同步传动/ 动力换档 Synchro gear or Power shift	动力换档 Power shift	
变速箱倒车档		同步传动	同步传动/ 动力换档	同步传动/ 动力换档	同步传动	同步传动/ 动力换档	同步传动/ 动力换档	动力换档	
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	
主要数据 MAIN DATA									
去兰到法兰的距离 Flange to flange distance	mm	1240			1240				1240
参考后桥扭矩 Reference torque at rear axle	Nm	14100			16100				16100
拖拉机总配重 Total tractor ballasted weight	kg	3200			3650				3650
最大后轮尺寸 Maximum rear tire size		16.9 R28			16.9 R28				16.9 R2
后轮指数半径 Rear tire index radius	mm	675			675				675
F拉杆后轮提升力 Rear lift capacity at lower link	kN	26			26				26
·	kg	700			700				700

可选项 OPTIONS

1或2动力输出速率,地轴传动动力输出/机械式或液压式:制动启动,后置差速器锁启动/湿式离合器动力输出 1 or 2 PTO Speed, Ground drive PTO / Mechanical or hydraulic: brakes actuation, Rear diff lock actuation / Wet clutch PTO

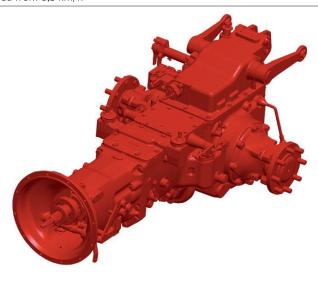


		T 5.0 V			VaryT 5.0 V
输入数据 INPUT DATA					
最大传动输入净功率	kW	67			67
Maximum transmission input net power	HP	91,2			91,2
额定功率下最大发动机转速 Max engine speed at rated power	rpm	2300			2300
最大输入扭矩 Maximum input torque	Nm	360			360
配置 CONFIGURATION					
总档位 Total gear [前进×后退] [fwd x rev]		12 x 12	24 x 24	24 x 12	VaryT
变速箱配置 Gear box configur [齿轮×范围] [gears x ranges]		4 x 3	2 x 4 x 3	2 x 4 x 3	_
变速箱换档 Gear box shifting		同步传动/ 啮合套换档范围 Synchro gear / Collar shift range	同步传动/ 啮合套换档范围 Synchro gear / Collar shift range	同步传动/ 啮合套换档范围 Synchro gear / Collar shift range	_
变速箱 [高–低] Gear box [hi-lo]		-	同步传动/ 动力换档 Synchro gear or Power shift	动力换档 Power shift	_
变速箱倒车档 Gear box reverse shifting		同步传动/ 动力换档 Synchro gear or Power shift	同步传动/ 动力换档 Synchro gear or Power shift	动力换档 Power shift	
主要数据 MAIN DATA					
法兰到法兰的距离 Flange to flange distance	mm	890 or 970			890 or 970
参考后桥扭矩 Reference torque at rear axle	Nm	13080			13080
拖拉机总配重 Total tractor ballasted weight	kg	3200			3200
最大后轮尺寸 Maximum rear tire size		13.6 R28			13.6 R28
后轮指数半径 Rear tire index radius	mm	625			625
下拉杆后轮提升力 Rear lift capacity	kN	26			26
驱动桥总重量 Total transaxle weight	kg	680			680

可选项 OPTIONS

1或2动力输出速率,地轴传动动力输出/机械式或液压式:制动启动,后置差速器锁启动/湿式离合器动力输出湿式离合器动力输出/爬坡速率自0.5 km/h起

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



T10.0 农用拖拉机底盘 T10.0 Agricultural Transaxle

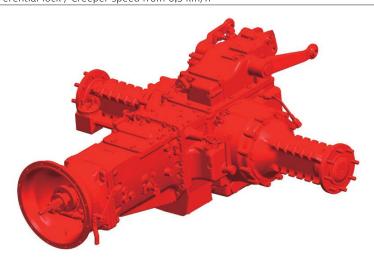
- > 双轴设计减小了齿轮箱的尺寸,提供足够的驾驶空间,大大提高了人体工程学性能和舒适度
- 基本配置具有同步换向器,确保了在果园等狭窄空间中的轻便倒转
- 基本型配备有同步常啮合12个前进档/12个后退档, 确保了驾驶舒适性和可靠性,同时还大大降低了拖拉 机成本
- > 安装在差速器附近、位于主减速器之前的湿式行车制动器,基本无需维护,使用寿命与拖拉机等长。基本型既可手动控制,也可机械控制。有驾驶室的拖拉机带有悬挂踏板,配有液压控制
- > 在12个前进档/12个后退档以及24个前进档/24个后 退档的型号中,带有地轴传动后置动力输出装置 (GDPTO),使拖拉机可以拖挂一个动力拖车,提 高了在斜坡或者泥泞地形上的活动性和牵引力
- > 独立后置动力输出轴设计可以传输发动机全部动力, 是果园拖拉机的理想选择
- SAE 3离合器外壳可以连接不同类型的柴油机,满足不同制造商对产品的灵活性和品牌形象的要求
- The 2-shaft design reduces gearbox size and provides ample room in the driver area, significantly enhancing ergonomics and comfort
- The basic configur ation 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 engines power and is therefore ideal for Orchard tractors
- The SAE 3 clutch housing ensures connection to different makes of diesel engine and satises the flexibility and brand image requirements of the various manufacturers

- > 可选范围广,有8/12/24排档,30公里/小时或40公里/小时,爬坡档可供选择,专为高端高效拖拉机而设计
- 处于中心位置的四轮驱动选项,是为带有中央差速器的四轮驱动前桥而设计的,合并了SAHR湿式离合器,保证在运行及负载情况下换档,这样踩下刹车踏板后,四个车轮能够自动制动。机械式简易换档也可供选择
- > 双片干式中央离合器控制完善了产品供应
- > 差速器锁,带有液压控制的湿式多片离合器
- > 基本型提供了转速为540转/分的单速后置动力输出轴,也有双速540/540E或540/1000可供选择,提高了经济性及通用性
- > 特殊长度和接口的离合器外壳,满足了特殊的车辆结构设计要求
- 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			VaryT 10.0
输入数据 INPUT DATA					
—————————————————————————————————————	kW	77			77
Maximum transmission input net power	HP	104,7			104,7
额定功率下最大发动机转速 Max engine speed at rated power	rpm	2200			2200
最大输入扭矩 Maximum input torque	Nm	426			426
配置 CONFIGURATION					
总档位 Total gear [前进×后退] [fwd x rev]		12 x 12	24 x 24	24 x 12	VaryT
变速箱配置 Gear box configur [齿轮×范围] [gears x ranges]		4 x 3	2 x 4 x 3	2 x 4 x 3	
变速箱换档 Gear box shifting		同步传动/ 啮合套换档范围 Synchro gear / Collar shift range	同步传动/ 啮合套换档范围 Synchro gear / Collar shift range	同步传动/ 啮合套换档范围 Synchro gear / Collar shift range	
变速箱 [高−低] Gear box [hi-lo]		-	同步传动/ 动力换档 Synchro gear or Power shift	动力换档 Power shift	
变速箱倒车档 Gear box reverse shifting		同步传动/ 动力换档 Synchro gear or Power shift	同步传动/ 动力换档 Synchro gear or Power shift	动力换档 Power shift	
主要数据 MAIN DATA					
法兰到法兰的距离 Flange to flange distance	mm	1540			1540
参考后桥扭矩 Reference torque at rear axle	Nm	29271			29271
拖拉机总配重 Total tractor ballasted weight	kg	5775			5775
最大后轮尺寸 Maximum rear tire size		18.4 R34			18.4 R34
后轮指数半径 Rear tire index radius	mm	775			775
下拉杆后轮提升力 Rear lift capacity	kN	45			45
底盘总重量 Total transaxle weight	kg	1150			1150

可选项 **OPTIONS**

1或2动力输出速率,地轴传动动力输出/机械式或液压式:制动启动,后置差速器锁启动/湿式离合器动力输出:动力输出,机械式前轮驱动,差速锁/爬坡速率自0.5 km/h 起 1 or 2 PTO speed, ground drive PTO / Mechanical or hydraulic: brakes actuation, Rear diff lock actuation / Wet clutch: PTO, MFWD, di erential lock / Creeper speed from 0,5 km/h



T15.0 农用拖拉机底盘 T15.0 Agricultural Transaxle

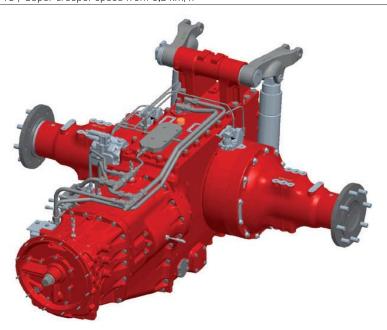
- > 具有双离合器的变速器: 偶数齿轮连接到其中的一个离合器上, 奇数齿轮连接到另一个上。换档时, 电子控制会通过同步器预先 选择所要求的齿轮, 因此可以反转离合器使之传送动力
- > 标准速度范围是1.6~40公里/小时。只需简单地对电子控制进行操作,就可以将最大速度提高到50或60公里/小时
- 配有4个自动化范围的换档模式使8档位自由换挡成为可能, 从而避免范围变化,并可在所有工作现场使用离合器
- > 安装在变速器中心位置的动力反转离合器,可以在不换档的情况下,全自动转变方向,从而减少动作重复并节省时间
- > 独立后置动力输出轴可以传输发动机全部的动力,速度可达540/540E或1000转/分钟
- > 电子控制采用了电动液压离合器来管理整个传动,保证差速闭锁的4个驱动轮在制动过程及任何工作条件中正常运行
- > 连接到变速器上的液压系统可以是开心式的也可以是闭心式的,并且带有一条灵敏线。两种情况都可以得到大油量、超大压力和提升力
- 后桥含有两个油冷式多片制动器,以及一个带有助力制动 的液压传动装置
- 带有双外部汽缸的电子控制起落装置,保证了7500公斤的 提升能力
- 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, signific ant oil flows, pressure and lifting capacity are obtained.
- The rear axle contains two oil-cooled multidisc brake units and a hydraulic actuator with power brake.
- Electronic control lifter with dual external cylinders guaranteeing lifting capacity of 7500 kg.

- > 超级爬坡可选项允许拖拉机的始发速度为0.2公里/小时。 范围的特定叠加使之可以在1460 转 /分钟的情况下达到最 大速度40公里/小时
- > 外轴上的地轴速率动力输出装置,旋转状态与拖拉机速度成正比,可以连接机动小车。这增强了在崎岖不平地面的可转动性和牵引力
- 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.

		DueT 15.0		VaryT 15.0
输入数据 INPUT DATA				
最大传动输入净功率	kW	110		110
Maximum transmission input net power	HP	149,6		149,6
额定功率下最大发动机转速 Max engine speed at rated power	rpm	2200		2200
最大输入扭矩 Maximum input torque	Nm	677		677
配置 CONFIGURATION				
总档位 Total gear [前进×后退] [fwd x rev]		24 x 24	32 x 32	VaryT
变速箱配置Gear box configur[齿轮×范围][gears x ranges]		4PS x 3 x 2	8PS x 4	
变速箱换档 Gear box shifting		动力换档机构(双离合器设计)/ 自动传动同步范围 Power shift gear (dual clutch design) / Robotized gear synchro ranges	动力换档机构(双离合器设计)/ 自动传动同步范围 Power shift gear (dual clutch design) / Robotized gear synchro ranges	
变速箱 [高-低范围] Gear box [hi-lo ranges]		啮合套换档 Collar shift	-	
变速箱倒车档 Gear box reverse shifting		动力换档 Power shift	动力换档 Power shift	
主要数据 MAIN DATA				
法兰到法兰的距离 Flange to flange distance	mm	1890		1890
参考后桥扭矩 Reference torque at rear axle	Nm	47211		47211
拖拉机总配重 Total tractor ballasted weight	kg	8250		8250
最大后轮尺寸 Maximum rear tire size		20.8 R38		20.8 R38
后轮指数半径 Rear tire index radius	mm	875		875
下拉杆后轮提升力 Rear lift capacity	kN	75		75
底盘总重量 Total transaxle weight	kg	1980		1980

可选项 OPTIONS

3动力输出轴转速,地轴驱动动力输出/超级爬坡速度从0.2 km/h起 3 PTO speed, Ground drive PTO / Super creeper speed from 0,2 km/h



电子控制单元 Electronic Control Unit

TRAX TRAX ************************************	ancod Control Systom
变速箱控制系统 Transmission Adv 车辆响应的集成电路	anceu Control System 可根据客户要求配带软件
Vehicle responsiveness customization	带有标准离合器调整系统,操作舒适、车辆反应迅速 Software configurable by customer needs Standard clutch modulation setups available for maximum operating comfort and high vehicle responsiveness
辅助功能	电子监控单元持续的检测可以保证操作的安全性 工作参数超标或者输入错误数据时,会有警报或错误提示信号/ 安全管理符合SIL1/ISO13849 C级标准
Prevention autodiagnostic system	All transmission functions over ECU continuous monitoring for maximum operator safety Alarm / Error signal for excessive working parametres and wrong inputs / Safety Management SIL1/ISO13849 Perf. level C
自我诊断系统	可与其他电子设备进行数据交换(例如 仪表盘),CAN J1939标准,带有诊断接口
Auxiliary functions	Data interchange with other on board electronics (i.e. dashboard) available Standard CAN J1939, Diagnostic interface for diagnosys and service
综合参数 General	
操作温度 Operating Temperature	- 40 / + 85 °C
储存温度 Storage Temperature	- 40 / + 85 °C
保护等级 Protection Rating	IP 67
电器参数 Electrical	
额定供给电压 Nominal Supply Voltage	12 Vdc
模拟电压输入范围 Analog Voltage Input Range	0 / 5 Vdc
额定数字输出电流 Rated Digital Output Current	2 A
额定脉宽调变器输出电流 Rated PWM Output Current	2 A
额定脉宽调变器输出频率 Rated PWM Output Frequency	4 kHz
叠加震荡频率 Superimposed Dither Frequency	信号线可调 SW-adjustable
叠加震荡振幅 Superimposed Dither Amplitude	信号线可调 SW-adjustable
串联接口通讯	RS232、异步、SAE J1939 / ISO 11783 / ISO 11898总线接口
Serial Interface Communication	RS232, asynchronous, one CAN interface according to SAE J1939 / ISO 11783 / ISO 11898
外壳 Housing	
电器连接 Electrical Connections	56个插接板 56 pins board-mounted
外壳材料 Housing Material	耐高温尼龙(黑色) High temperature nylon (Black)
重量 Weight	0.25 Kg (供参考) 0.25 Kg (for reference only)





车桥 Axles

农用车桥

Axles for agricultural applications

- > 为额定功率为35~350马力的拖拉机专门设计的产品范围最完整的转向驱动车桥
- > 大范围的比率及宽轮距,保证了灵活性,几乎可以 满足任何类型的应用
- > 优化的一体设计,确保了高载荷下的最大强度
- > 结实的传动装置设计, 延长了使用寿命,提高了耐 用性
- > 大量的可选项可以最大限度地满足终端客户的不同 需求
- 高标准的子组件,为客户和经销商大大节约了存储零部件的空间
- > 无需配备任何特殊工具的子组件,安排合理,保证 了保养的简单快捷
- 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 strenght under high loads
- Robust gear design for longer life and improved durability
- Extreme adaptability to the finalusers 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

特点 Features

- > 结实的一体结构
- > 最大55度的转向角度
- > 优化的转向轮偏转角关系
- > Robust monolithic structure
- > Steering Angle up tp 55°
- > Optimized steering geometry

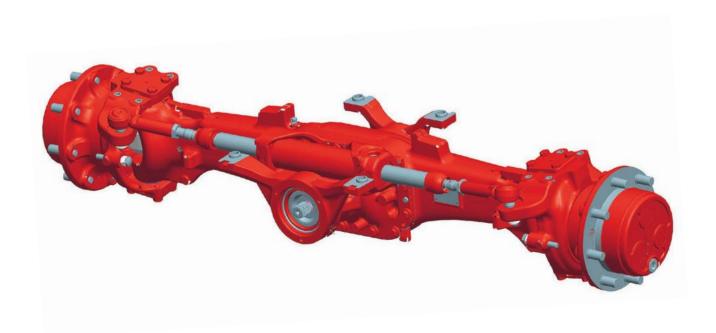
优点 Advantages

- > 精确转向
- > 更高的生产率
- > 更少的维护
- > 轻松保养
- > Precision steering
- > Greater productivity
- > Reduced maintenance
- > Easy service

- > 油浸盘式制动器
- > 自锁多片式差速锁
- > 集成转向传感器
- > 耐用润滑万向接口及防水密封
- > Oil immerseed 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
输入功率(ECE R24) Input Engine Power (ECE R24)	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
车轮的峰值扭矩 Peak Torque @ Wheels	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
总传动比 Total Ratio	6,5:1 16,8	:18:1 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
动负载容量 Dynamic Load Capacity *	24 kN	24 kN	36 kN	44 kN	65 kN	75 kN	80 kN	85 kN	95 kN	110 kN
静负载容量 Static Load Capacity **	60 kN	60 kN	90 kN	110 kN	170 kN	190 kN	200 kN	210 kN	235 kN	275 kN
法兰到法兰的距离 Flange to Flange Distance	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
制动器 Brakes	无 none	湿式多片 (可选) Wet multi-disc (optional)	湿式多片 (可选) Wet multi-disc (optiona l)							
差速器	防滑系统 机械差速锁 (可选)									
Differential	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)						
转向传感器 Steering Sensor	可选 Optiona l	可选 Optional	可选 Optiona l							

^{*} Front loader operation * * Ballasted vehicle & without implements



^{*} 无工具卸碴车 **单斗装载机作业

带独立电控悬挂的车桥 Axles with independent and electronically controlled suspension

- > 70~200马力的各种车桥
- > 应用于带有位置控制(卡拉罗专利)的新型一体化 独立悬挂系统
- > 此系统在4轮驱动市场是一项重大创新,避免车辆在 恶劣地面条件下的震动
- > 由双叉骨独立支撑的车轮,保证了车辆即使在不平的地面上也可以正常运行,而液压气动悬挂则保证了在各种不同负载的情况下的减振效果
- > 本系列车桥与传统型车桥可以完全互换,无需对底 盘或传动轴进行修改
- > 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 vehicles set up even on rough terrain, while the hydropneumatic 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

特点 Features

- > 悬挂范围+ / 45毫米
- > 控制系统最大压力180 巴
- > 更好的抓力(+70% VS刚性轴簧载质量的频率)
- > 更好的阻尼能力
- > 自我修正功能
- > 悬挂锁紧
- > 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

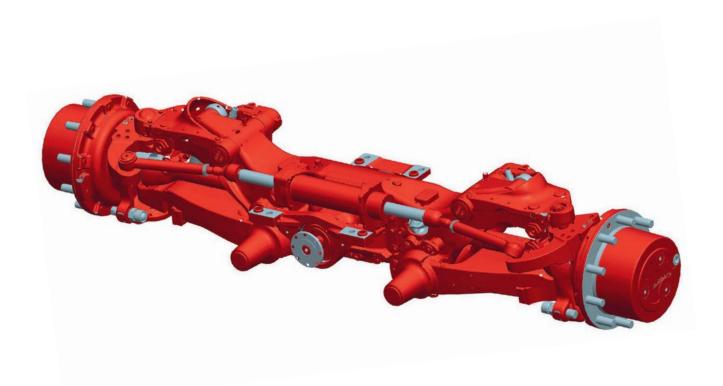
优点 Advantages

- > 更便捷的操作
- > 精确转向
- > 更快的越野速度
- > 更高的生产率
- > 更加舒适
- > 更加快捷
- > Better handling
- > Precision steering
- > Higher cross-country speeds
- > Greater productivity
- > Greater comfort
- > Greater safety

- > 油浸盘式制动器
- > 多片式差速锁
- > 集成转向传感器
- > 阀单元集成电子控制单元 (ECU)
- > Oil immerseed disc brakes
- > Multi disc differential lock
- > Integrated steering sensor
- > ECU integrated in the valve unit

	20.165 I	20.195 I	20.25SI	20.3251	20.4551
输入功率(ECE R24) 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
车轮的峰值扭矩 Peak Torque @ Wheels	22,4 kNm	26,6 kNm	35 kNm	44,8 kNm	63 kNm
总传动比 Total Ratio	10:1 21:1	10:1 21:1	10:1 21:1	12:1 21:1	12:1 21:1
动负载容量 Dynamic Load Capacity *	36 kN	44 kN	65 kN	75 kN	80 kN
静负载容量 Static Load Capacity **	90 kN	110 kN	170 kN	190 kN	200 kN
法兰到法兰的距离 Flange to Flange Distance	1640 mm	1800 mm	1800 mm	1900 mm	1900 mm
制动器 Brakes	可选 Optional	可选 Optional	可选 Optional	可选 Optional	可选 Optional
差速器 Differential	防滑系统 机械差速锁 (可选) Limited	防滑系统 机械差速锁 (可选) Limited	防滑系统 机械差速锁 (可选) Limited	防滑系统 机械差速锁 (可选) Limited	防滑系统 机械差速锁 (可选) Limited
5.1.5.5.1.tu	slip system Wet clutch diff. lock (optional)	slip system Wet clutch diff lock (optional)			
转向传感器 Steering Sensor	可选 Optional	可选 Optional	可选 Optional	可选 Optional	可选 Optional

^{*} 单斗装载机作业 **无工具卸碴车



^{*} Front loader operation

^{**} Ballasted vehicle & without implements





The Power Transmission Excellence is our Passion

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电话: 0532-66963000 传真: 0532-66963111 china@carraro.com 安装图纸可以根据客户的要求绘制,尺寸和技术 数据会随研发深入而有所更改。

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



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