Backhoe Loaders Drivelines

Carraro has established its reputation as a leader amongst BHL Driveline System providers by offering a unique variety of solutions for any machine size and architecture: from the lighter and simpler 2-Wheel Drive Machines mainly used in Emerging Countries, to the powerful, high performing, fully electronically controlled 4-Wheel Drive / Steering Machines requested in the more advanced Markets.

The Carraro BHL Axles embody solutions that are able to meet requirements for both entry level machines, which call for robust and flexible configurations, and premium machines, which demand the best performance in fuel efficiency and productivity. Each axle model is available with several reduction ratios, multiple widths, and various vehicle mounting interfaces. These features, combined with the large number of available options, ensure that virtually any machine usage or application can be met. Every axle has been designed for use under the severest conditions, with a high load capacity and robust gear design to ensure an extended service life with improved durability. All Steering Axles enable a tight steering radius, while ensuring precise handling, high manoeuvrability, and minimum tyre wear. All Rear Axles are available with multiple differential configurations, from open to 100% locked, to ensure optimal traction under any ground conditions.

The Carraro BHL Drivelines are completed by the extensive Torque Converter Transmission product line, with 3 Speed Shifting Technologies: Synchro Shuttle, Power Servo Synchro and Power Shift. All of these are interchangeable for dimension and ratios, and fully configurable with several different features: different types of 4WD engagements, Parking Brake Configurations, Boosted Brakes lines, Sensors and, naturally, the Carraro proprietary ECU, where necessary. This provides a very unique level of configurability for the entire Driveline, making it possible to meet the most specific requirements of each application.

In the BHL application Carraro offers the **Power Servo Synchro ™** Technology, proven to be effective and efficient, combining the low power loss of the Synchro Shuttle configuration with the advanced driving strategy of the Power Shift.

The Carraro **Power Servo Synchro** Units, fully electronically controlled, have electro-hydraulic actuation of the synchronizer for the speed shift and Powershift Forward-Reverse Shuttling. This enables fast response, high driver comfort and best-in-class fuel consumption.

Carraro is continuously upgrading its product offer, developing Modules that can be implemented with all of its Torque Converter Transmissions. **The Direct Drive** Module ensures optimisation of Transmission Responsiveness and Efficiency in all dynamic working conditions, while the **ECOlogy Mode** Function Module is designed to minimise machine fuel consumption in stationary working conditions.

The **Direct Drive** consists of a wet clutch that is electro-hydraulically engaged, controlled either manually (by operator) or automatically through the Carraro proprietary ECU. With this clutch, the Torque Converter is by-passed in all working conditions where it's not required, thus achieving faster, more reactive and fuel efficient machine behaviour.

The **ECOlogy Mode** Function is a hydraulic control block which reduces the transmission lube pump pressure when the machine is working in stationary conditions, thus reducing fuel consumption.

Augmented Contents

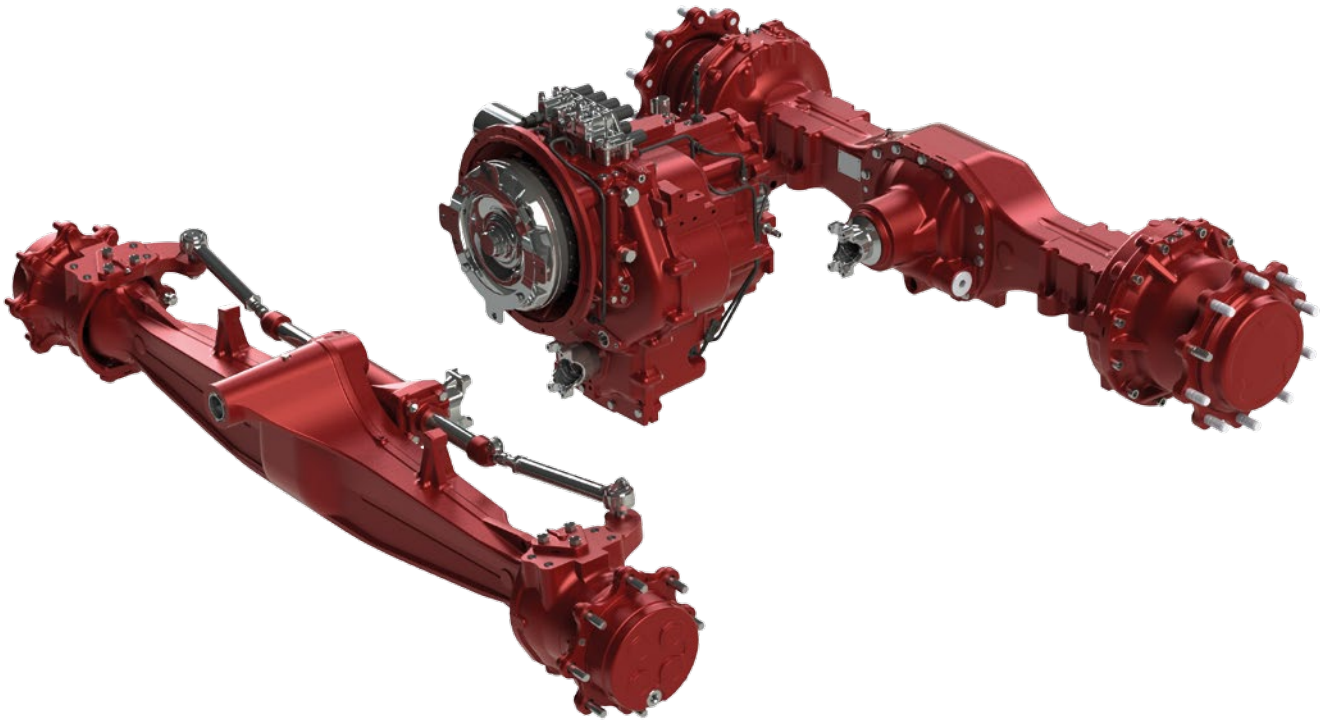
Direct Drive

ECOlogy Mode

2WS machine Engine power kW	**Front axle**	**Rear axle**	**Transmission**	**ECU**
From 50 up to 82	26.16	28.32 M 28.40 FR	TCB80	
From 70 up to 82	26.22	28.43 M 28.44 FR	TCB80 SPS TCB80	Yes
From 75 up to 90	26.24	28.50 FR	TCB90 PS	Yes

4WS machine Engine power kW	**Front axle**	**Rear axle**	**Transmission**	**ECU**
From 70 up to 82	26.32	26.43 M	TCB80 SPS	Yes
From 75 up to 90	26.43	26.43 M	TCB90 PS	Yes

All specifications can be subject to changes without prior advice by Carraro



		2WS BHL FRONT STEER MODEL			
MODEL		**26.00**	**26.16**	**26.22**	**26.24**
Overall width	mm	1,900 2,000	1,980 2,080	2,080	2,165 2,080
Flange to flange distance	mm	1,820 1,910	1,820 1,920	1,920	1,905 1,920
Wheel mounting dimension	mm	n° 8 5/8"–18 on ø 203.2 mm	n° 8 M18x1.5 on ø 275 mm	n° 8 M18x1.5 on ø 275 mm	n° 8 M18x1.5 on ø 275 mm
Max steering angle		60°	55°	55°	55°
Peak torque	kNm	-	24	31	34
Dynamic load capacity	kN	80	80	95	95
Static load capacity	kN	200	200	237.5	237.5

		2WS BHL REAR RIGID MODEL				
MODEL		**28.40 FR**	**28.44 FR**	**28.50 FR**	**28.32 M**	**28.43 M**
Overall width	mm	1,784	1,930	1,930	1,860 2,006 2,106	1,913 2,060 2,160
Flange to flange distance	mm	1,654	1,800 1,654	1,800	1,654 1,800 1,900	1,654 1,800 1,900
Wheel mounting dimension	mm	n° 10 M22x1.5 on ø 335 mm	n° 10 M22x1.5 on ø 335 mm	n° 10 M22x1.5 on ø 335 mm	n° 10 M22x1.5 on ø 335 mm	n° 10 M22x1.5 on ø 335 mm
Peak torque	kNm	56	62	70	45	60
Dynamic load capacity	kN	75	80	95	75	80
Static load capacity	kN	187.5	200	237.5	187.5	200

		4WS BHL MODEL			
MODEL		**26.32**	**26.43**	**26.32 M**	**26.43 M**
Overall width	mm	2,105 2,350	2,160 2,405	2,105 2,350	2,160 2,145
Flange to flange distance	mm	1,900 2,145	1,900 2,145	1,900 2,145	1,900 2,145
Wheel mounting dimension	mm	n° 10 M22x1.5 on ø 335 mm	n° 10 M22x1.5 on ø 335 mm	n° 10 M22x1.5 on ø 335 mm	n° 10 M22x1.5 on ø 335 mm
Max steering angle		45°	45°	45°	45°
Peak torque	kNm	45	60	45	60
Dynamic load capacity	kN	90	100	75	100
Static load capacity	kN	225	250	187.5	250

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