

A detailed technical line drawing of a gearbox assembly, showing various gears, shafts, bearings, and housing components. The drawing is rendered in black lines on a white background, with some areas shaded to indicate depth and form. The gears are prominent, with their teeth clearly defined. The overall layout is complex and mechanical.

TRANSAXLES TBe



BORGHI ASSALI S.r.l.

THE HISTORY

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The company was born on 4th January 1971 and was specialized in the design and construction of moulds and equipment for the metal sheet cold deformation.

In 1992 through an international research the company has begun the development of idle steer axles for forklift counterbalance, side loaders, Ground Support Equipment and airport tow tractors.

The innovation and the quality has conquered in a short time the markets all over the world. Beginning from this first experience and taking always advantage of the most modern design technologies the company could develop a wide range of products beginning from the idle steer axles with solutions covered by patents, the company is in fact present in many European and Extra-European countries with beyond 85% of the production.

Since 2009 we have begun the development of motorized wheels with horizontal and vertical motor and recently we have developed a little range of Motorised Transaxles.

TECHNICAL DEPARTMENT AND THE QUALITY

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Our technical department is equipped with the most advanced systems for design and calculation facing any demand from customers preparing special products for the single applications.

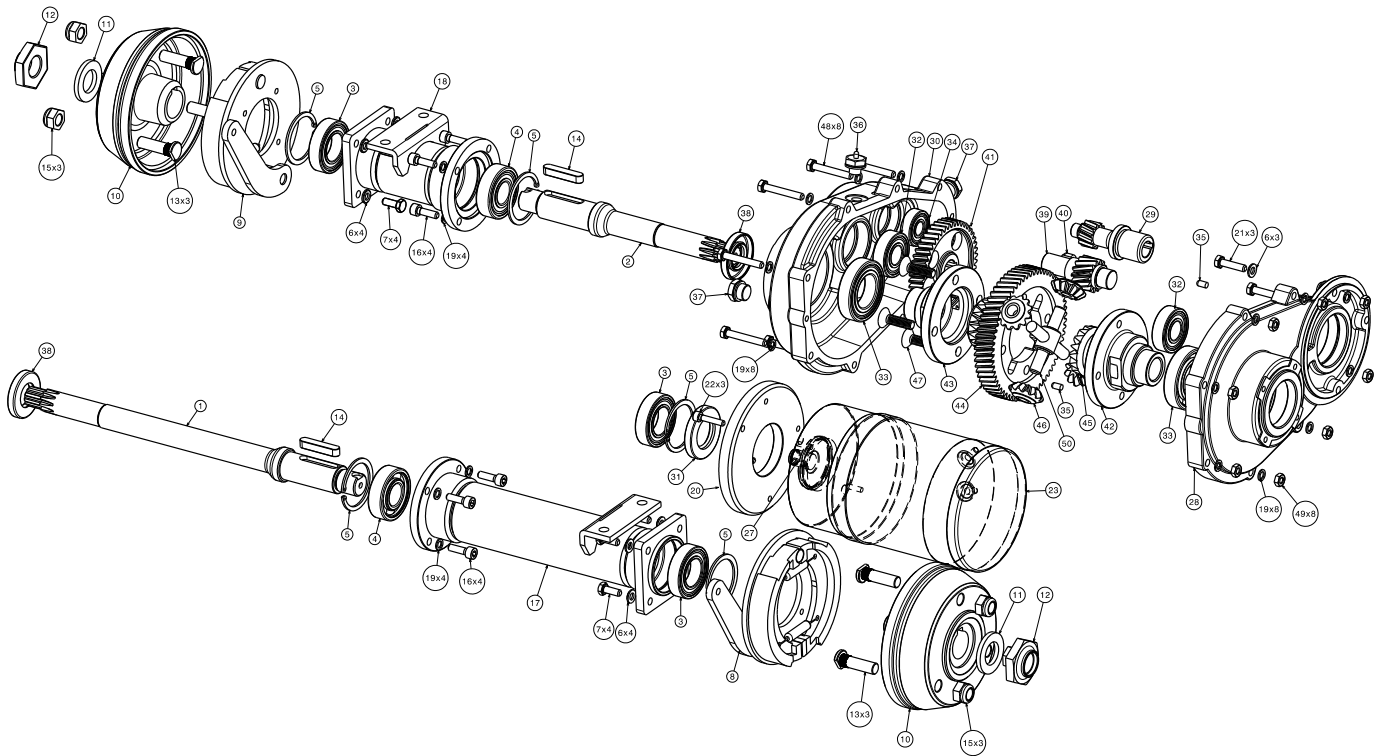
The quality control besides of the inbound and outbound components by means of automatic control systems ensure the product quality that emphasizes the seriousness of the company and supports the customer guaranteeing completely the choice and the preference given to the our production.

We are a certified company ISO 9001 and we are in line with the requirements in the field of safety at work OHSAS 18001 and we are actually achieving the environmental certification ISO 14001.

In addition we are working with American companies and we have adhered to the USA standard for antiterrorism C-TPAT. This is a customs initiative that works in partnership with the trade community to secure the global supply chain.



TRANSAXLES



TRANSAXLES TBe

The Transaxles are drive axles with integrated differentials. They can be operated through an electric or hydraulic motor. They are available with several reduction ratios and can be equipped with drum or disc brakes. It is possible to execute customized versions by intervening, for example, on the width, the type of attachment and the bore of the hubs, based on the type of wheel you want to mount. Particular geometries in the profile of the gears and special surface treatments confer great quiet and smooth operation.

TRANSAXLES TBe250
TBe 500
TBe 800
TBe 450, TBe 650, TBe 1600
TBe 2000
COMPARISON TABLE

FRONT SUSPENSION 5150 10 000
756 010 000
PV 842



SWEEPERS



SCRUBBERS



**ELECTRIC TOW
TRACTOR**



**ELECTRIC
TRACTORS**



**ELECTRIC
VEHICLES**



**ELECTRIC
PICK-UP**



MICRO CAR

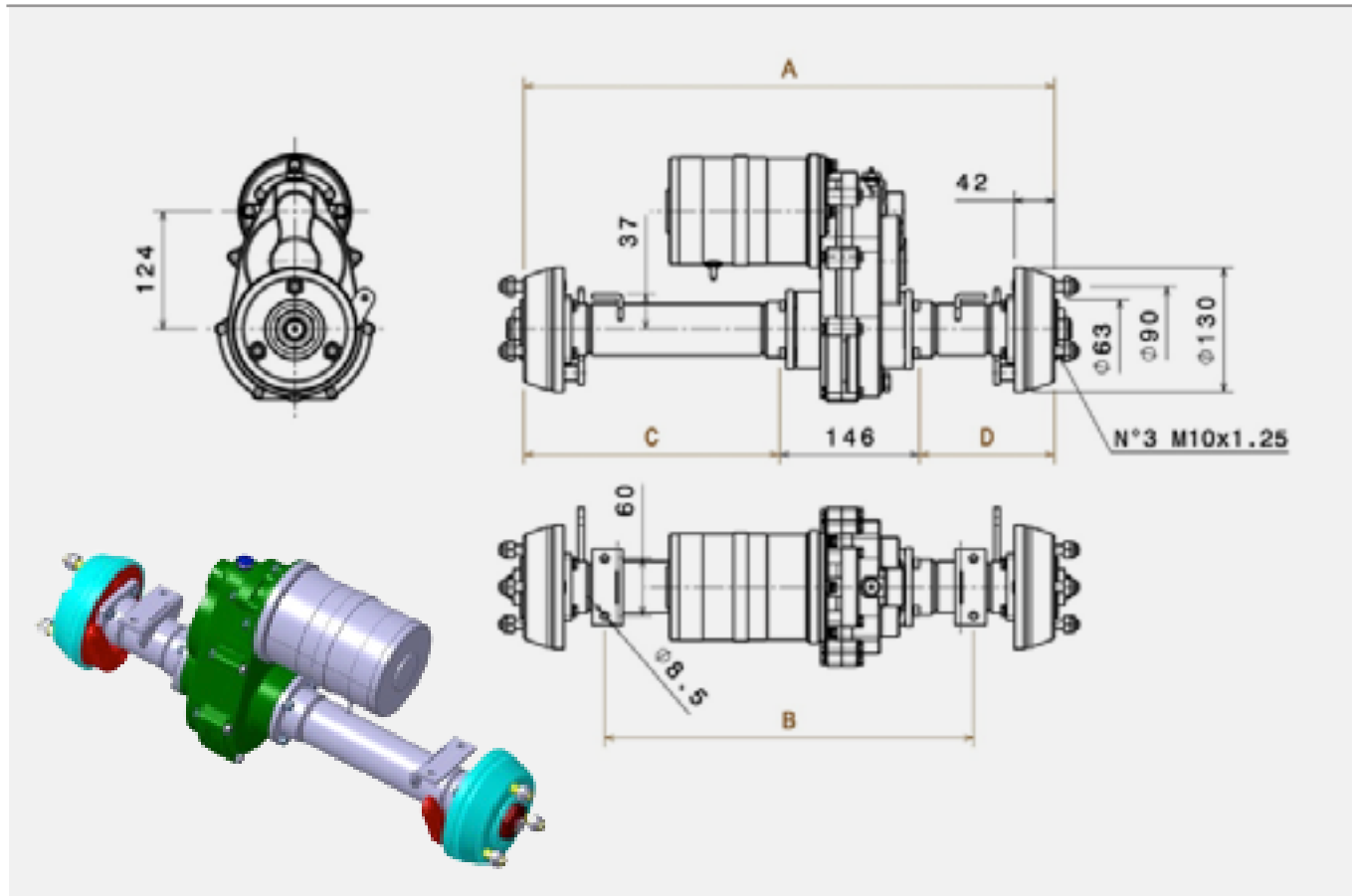


**ELECTRIC
TRUCKS**



MINI BUS

TBe250



MAX OUTPUT PEAK TORQUE AT THE WHEEL (Nm)
MAXIMUM LOAD CAPACITY (Kg)



APPLICATION

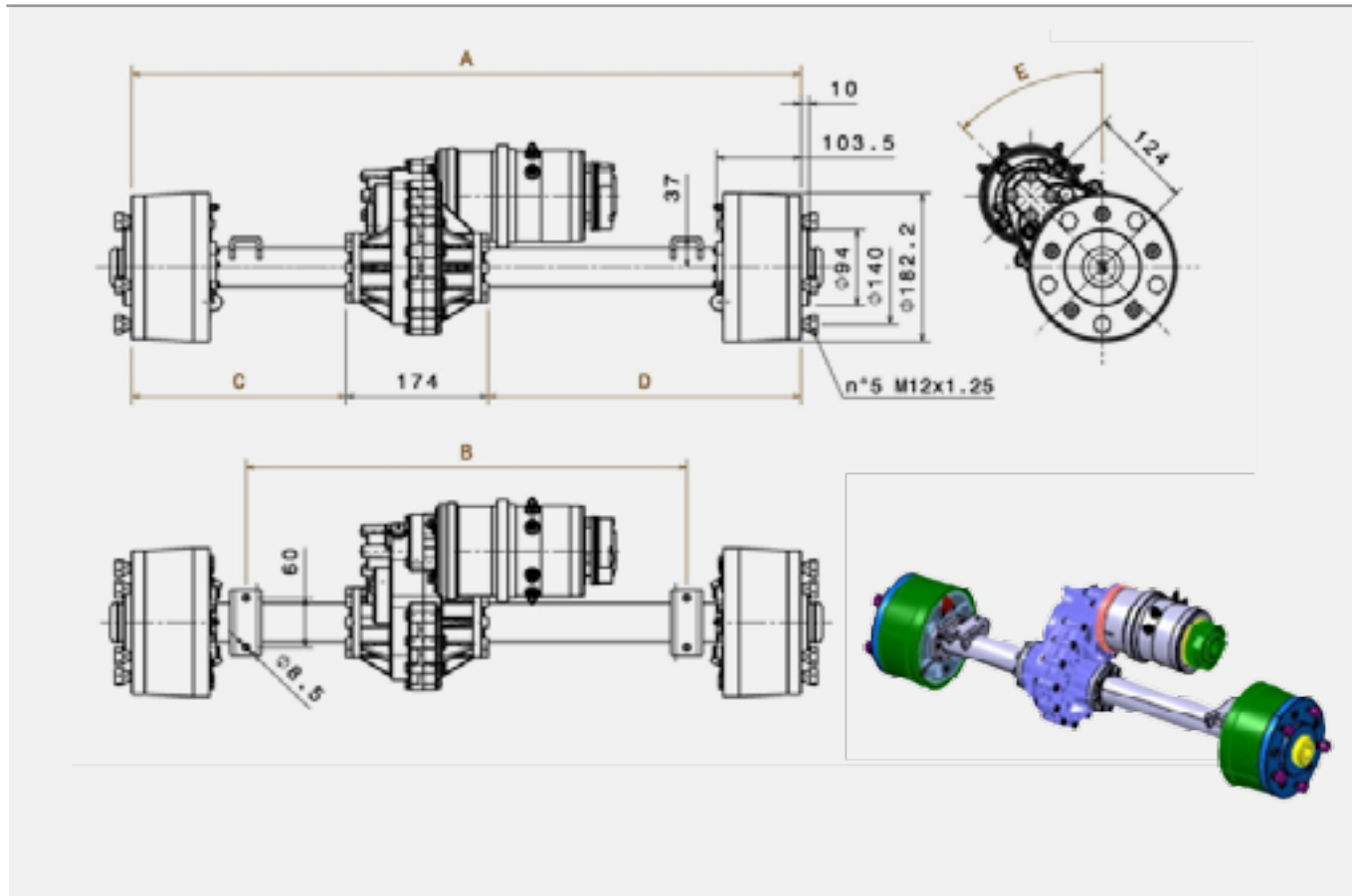
TECHNICAL SPECIFICATIONS

MAXIMUM TRACTION MOTOR RATED POWER	1.2 kW(*)
AVAILABLE SUPPLY	24V DC MP o SEM, 24V o 48V AC
AVAILABLE TRACTION MOTORS	700W 24V DC MP, 1200W 24V DC SEM
MAX OUTPUT PEAK TORQUE AT THE WHEEL	250 Nm
MAX OUTPUT CONTINUOUS TORQUE AT THE WHEEL	180 Nm
MAX RPM IN INPUT	7.000 rpm
AVAILABLE RATIOS	1:20, 1:30
MAX LOAD ON THE AXLE (**)	250 kg
MACHANICAL SERVICE DRUM BRAKE	Ø115x20
ELECTROMAGNETIC PARKING BRAKE	5Nm, 10Nm

(*) electric traction motors are sized with a S2=60 min duty cycle

(**) Our axles are sized with an adequate safety factor

TBe500



MAX OUTPUT PEAK TORQUE AT THE WHEEL (Nm)
MAXIMUM LOAD CAPACITY (Kg)

500

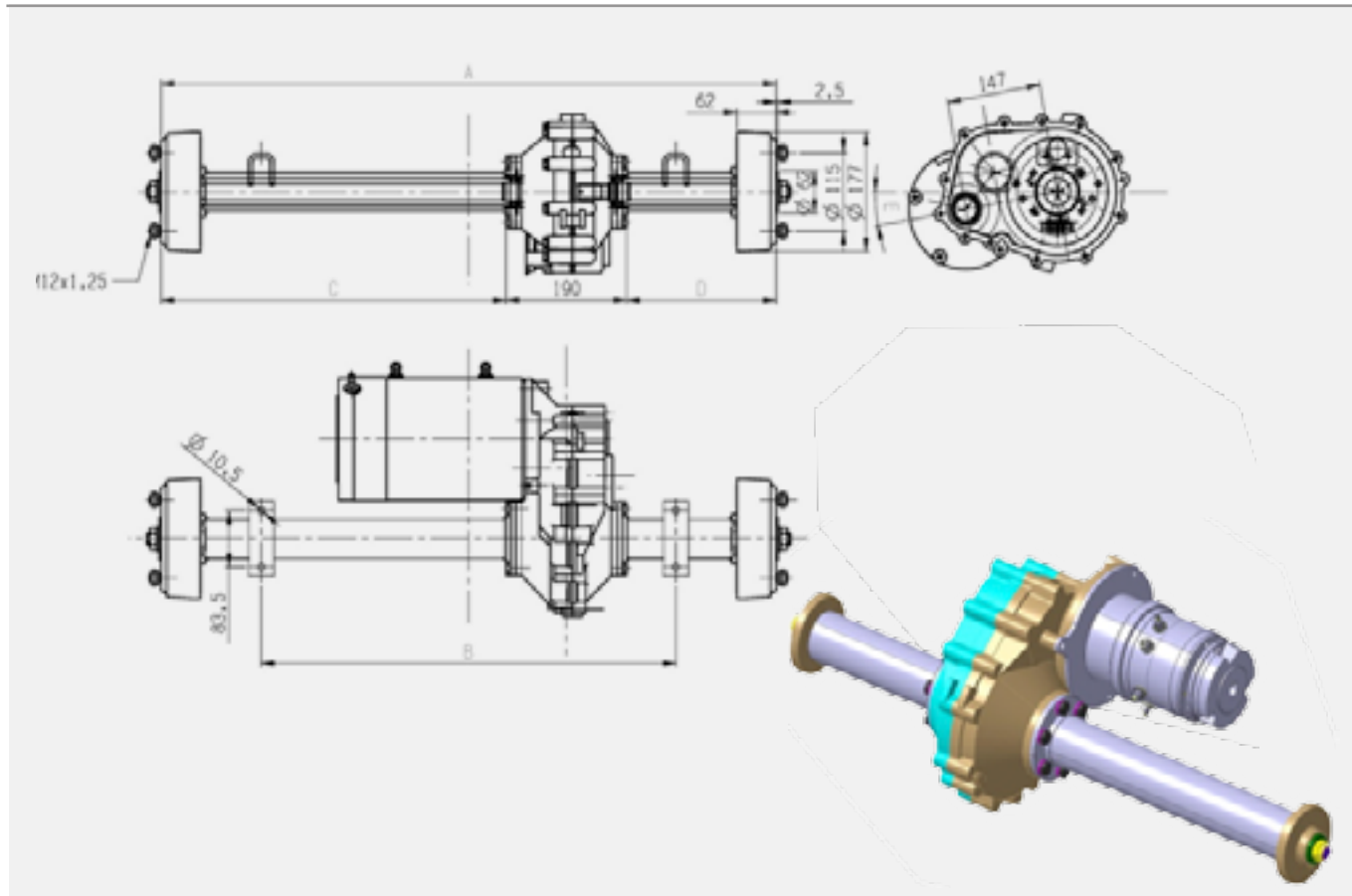
APPLICATION

TECHNICAL SPECIFICATIONS

MAXIMUM TRACTION MOTOR RATED POWER	2.0 kW (*)
AVAILABLE SUPPLY	24V DC MP o SEM, 24V o 48V AC
AVAILABLE TRACTION MOTORS	700W 24V DC MP, 1200W 24V DC SEM
MAX OUTPUT PEAK TORQUE AT THE WHEEL	500 Nm
MAX OUTPUT CONTINUOUS TORQUE AT THE WHEEL	350 Nm
MAX RPM IN INPUT	7.000 rpm
AVAILABLE RATIOS	1:20, 1:30
MAX LOAD ON THE AXLE (**)	500 kg
HYDRAULIC SERVICE DRUM BRAKE	Ø160x35
MAX SERVICE BRAKE TORQUE	570Nm a 140 bar each wheel
ELECTROMAGNETIC PARKING BRAKE	5Nm, 10Nm, 20Nm

(*) electric traction motors are sized with a S2=60 min duty cycle
 (**) Our axles are sized with an adequate safety factor

TBe800



MAX OUTPUT PEAK TORQUE AT THE WHEEL (Nm)
MAXIMUM LOAD CAPACITY (Kg)

800

APPLICATION



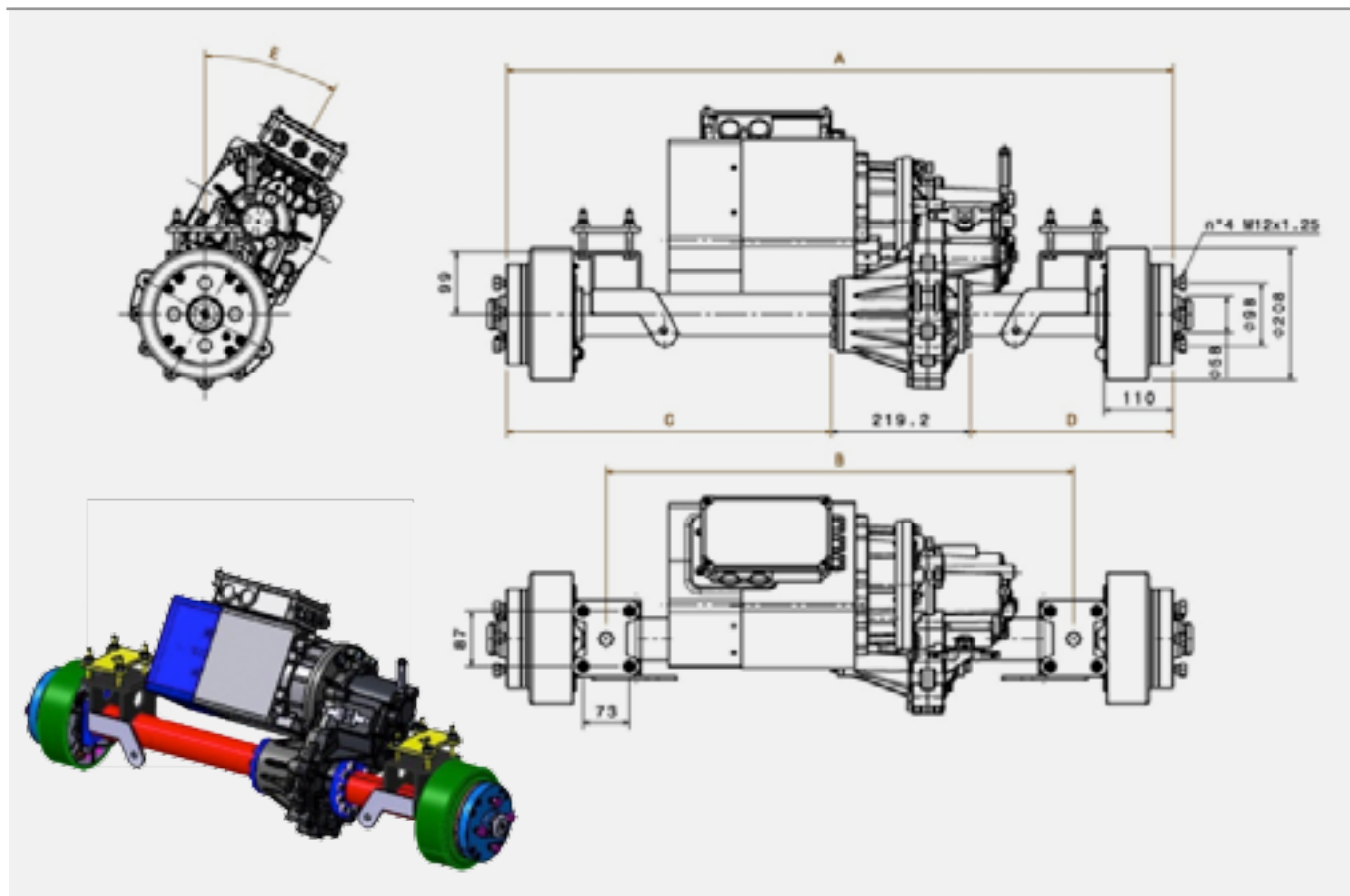

TECHNICAL SPECIFICATIONS

MAXIMUM TRACTION MOTOR RATED POWER	5.0 kW (*)
AVAILABLE SUPPLY	24V DC MP o SEM, 24V o 48V AC
AVAILABLE TRACTION MOTORS	700W 24V DC MP, 1200W 24V DC SEM
MAX OUTPUT PEAK TORQUE AT THE WHEEL	800 Nm
MAX OUTPUT CONTINUOUS TORQUE AT THE WHEEL	600 Nm
MAX RPM IN INPUT	7.000 rpm
AVAILABLE RATIOS	1:15, 1:27
MAX LOAD ON THE AXLE (**)	800 kg
HYDRAULIC SERVICE DRUM BRAKE	Ø160x35
MAX SERVICE BRAKE TORQUE	570Nm a 140 bar each wheel
ELECTROMAGNETIC PARKING BRAKE	5Nm, 10Nm, 20Nm

(*) electric traction motors are sized with a S2=60 min duty cycle

(**) Our axles are sized with an adequate safety factor

TBe450, TBe650, TBe1600



MAX OUTPUT PEAK TORQUE AT THE WHEEL (Nm)
MAXIMUM LOAD CAPACITY (Kg)

450

650

1600

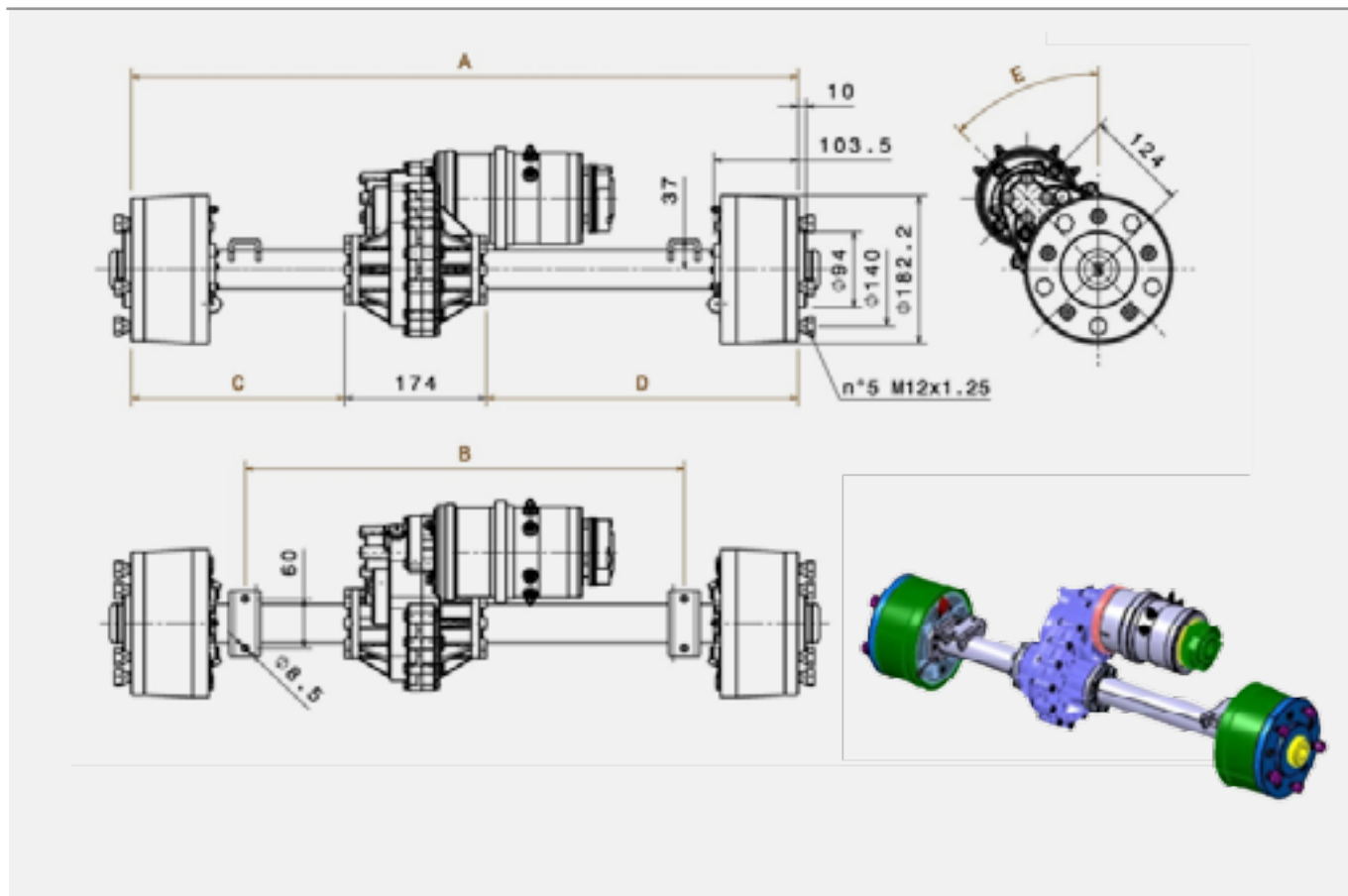
APPLICATION

TECHNICAL SPECIFICATIONS	TBe 450	TBe 650	TBe 1600
MAXIMUM TRACTION MOTOR RATED POWER	9.0 kW (*)		
AVAILABLE SUPPLY	24V, 48V, 80V AC		
AVAILABLE TRACTION MOTORS	9.0 kW 80V AC		
MAX OUTPUT PEAK TORQUE AT THE WHEEL	450 Nm	650 Nm	1600 Nm
MAX OUTPUT CONTINUOUS TORQUE AT THE WHEEL	350 Nm	450 Nm	1000 Nm
MAX RPM IN INPUT	7.000 rpm		
AVAILABLE RATIOS	2 speeds: 1:12/1:15, 1 speed: 1:12, 1:15, 1:20		
MAX LOAD ON THE AXLE (**)	1600 kg		
HYDRAULIC SERVICE DRUM BRAKE	Ø185x40		
MAX SERVICE BRAKE TORQUE	1.600Nm a 120 bar each wheel		
ELECTROMAGNETIC PARKING BRAKE	40Nm, 75Nm, 100Nm		

(*) electric traction motors are sized with a S2=60 min duty cycle

(**) Our axles are sized with an adequate safety factor

TBe2000



MAX OUTPUT PEAK TORQUE AT THE WHEEL (Nm)
MAXIMUM LOAD CAPACITY (Kg)

2000



APPLICATION

TECHNICAL SPECIFICATIONS

MAXIMUM TRACTION MOTOR RATED POWER	15 kW (*)
AVAILABLE SUPPLY	48V, 80V, 120V AC
AVAILABLE TRACTION MOTORS	9.0kW 80V AC
MAX OUTPUT PEAK TORQUE AT THE WHEEL	2.000 Nm
MAX OUTPUT CONTINUOUS TORQUE AT THE WHEEL	1.300 Nm
MAX RPM IN INPUT	7.000 rpm
AVAILABLE RATIOS	2 speeds: 19.5/93.5, 19.5/48.5, 48.5/93.5, 10/25.5, 10/49, 25.5/49. 1 speed: 10, 19.5, 25.5, 49, 93.5
MAX LOAD ON THE AXLE (**)	2.000 kg
HYDRAULIC SERVICE DRUM BRAKE	Ø180x45
MAX SERVICE BRAKE TORQUE	1.600Nm a 120 bar each wheel
ELECTROMAGNETIC PARKING BRAKE	40Nm, 75Nm, 100Nm

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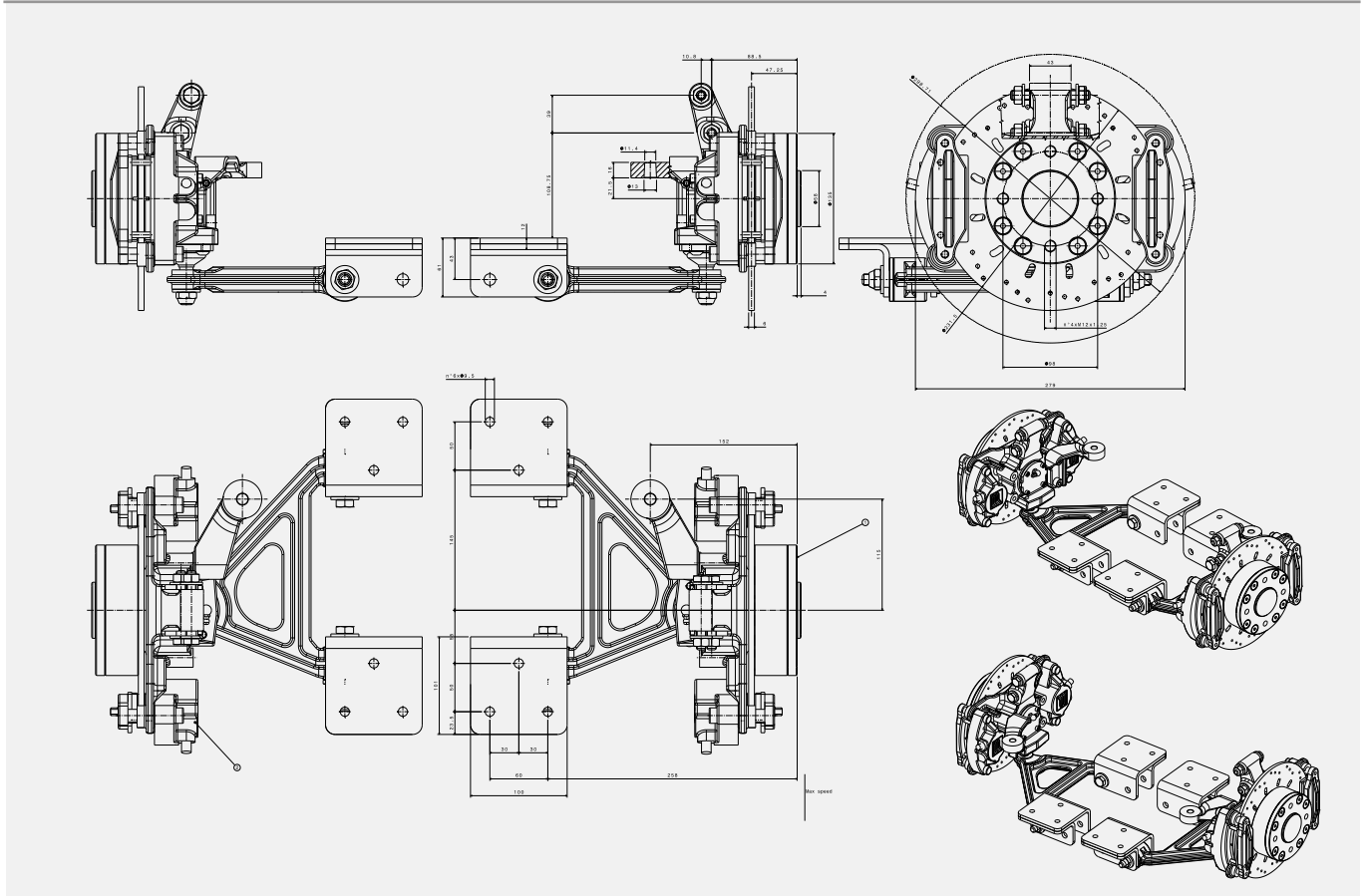
COMPARISON TABLE

TECHNICAL SPECIFICATIONS	TBe250	TBe500	TBe800	TBe450	TBe650	TBe1600	TBe2000
MAXIMUM TRACTION MOTOR RATED POWER (*)	1.2 kW	2.0 kW	5.0 kW	9.0 kW			15 kW
AVAILABLE SUPPLY	24V DC MP o SEM, 24V o 48V AC	24V DC MP o SEM, 24V o 48V AC	24V DC MP o SEM, 24V o 48V AC	24V, 48V, 80V AC			48V, 80V, 120V AC
AVAILABLE TRACTION MOTORS	700W 24V DC MP, 1200W 24V DC SEM	700W 24V DC MP, 1200W 24V DC SEM	700W 24V DC MP, 1200W 24V DC SEM	9.0 kW 80V AC			9.0 kW 80V AC
MAX OUTPUT PEAK TORQUE AT THE WHEEL	250 Nm	500 Nm	800 Nm	450 Nm	650 Nm	1600 Nm	2.000 Nm
MAX OUTPUT CONTINUOUS TORQUE AT THE WHEEL	180 Nm	350 Nm	600 Nm	350 Nm	450 Nm	1000 Nm	1.300 Nm
MAX RPM IN INPUT	7.000 rpm						
AVAILABLE RATIOS	1:20, 1:30	1:20, 1:30	1:15, 1:27	2 speeds: 1:12/1:15, 1 speed: 1:12, 1:15, 1:20			2 speeds: 19.5/93.5, 19.5/48.5, 48.5/93.5, 10/25.5, 10/49, 25.5/49.
MAX LOAD ON THE AXLE (**)	250 kg	500 kg	800 kg	1600 kg			2.000 kg
HYDRAULIC SERVICE DRUM BRAKE	Ø125x20	Ø160x35	Ø160x35	Ø185x40			
MAX SERVICE BRAKE TORQUE		570Nm a 140 bar each wheel	570Nm a 140 bar each wheel	1.600Nm a 120 bar each wheel			
ELECTROMAGNETIC PARKING BRAKE	5Nm, 10Nm	5Nm, 10Nm, 20Nm	10Nm, 20Nm	40Nm, 75Nm, 100Nm			

(*) electric traction motors are sized with a S2=60 min duty cycle

(**) Our axles are sized with an adequate safety factor

5150 10 000



MAXIMUM LOAD CAPACITY (Kg)

900

APPLICATION





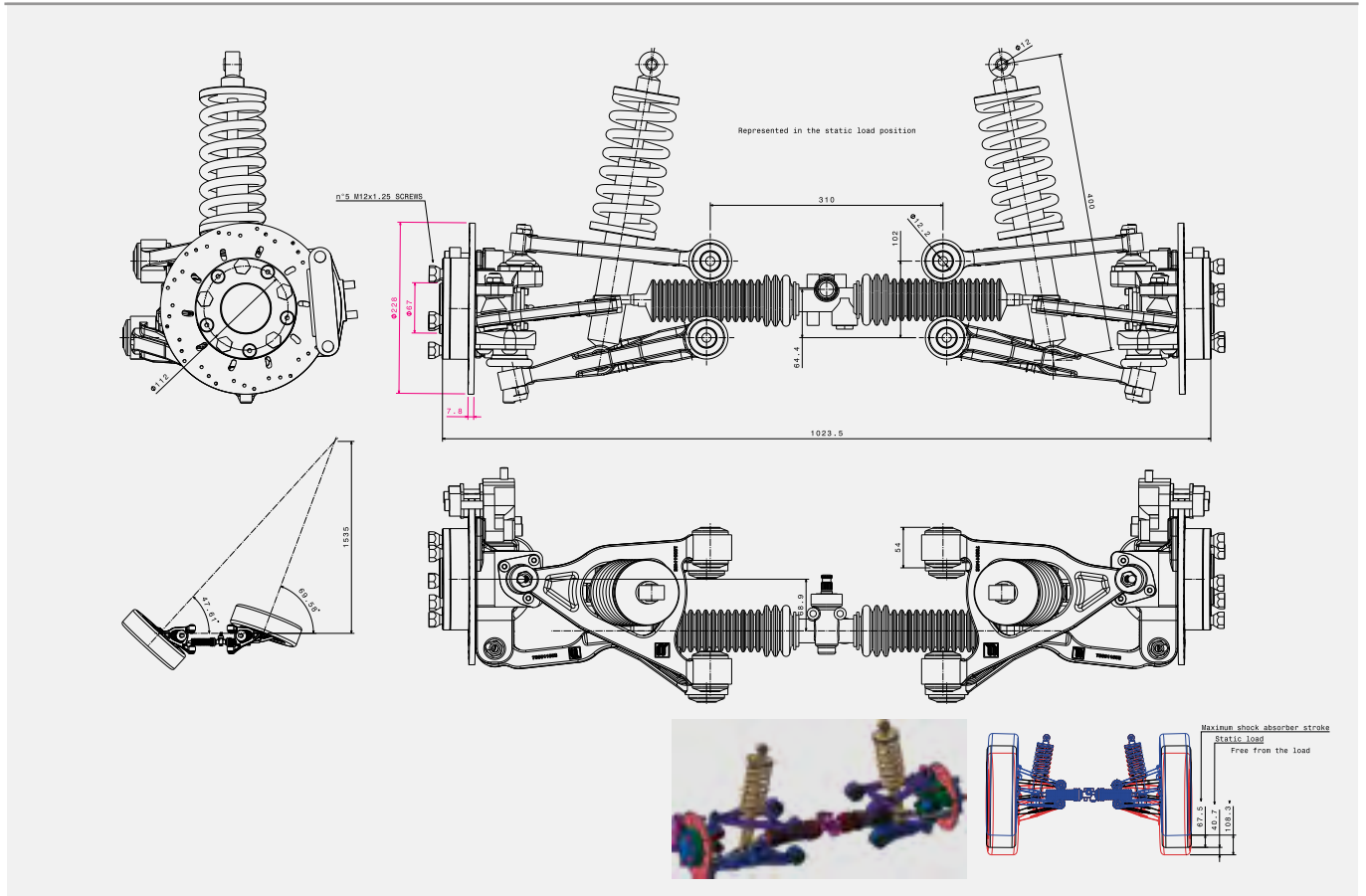

TECHNICAL SPECIFICATIONS

MAX TOTAL LOAD	900 Kg
MAX SPEED	40 Km/h
SERVICE DISK BRAKES DIAMETER	Ø 231.5 disk with double caliper
MINIMUM RIM SIZE	13°

The front suspension are steering axles studied for evolved electric vehicles and automobile application.
 We realize these typology of axle in order to provide our customer with a solution for their electric vehicles.
 The actual Front Suspension has been studied taking in consideration the custom needs.

The Front Suspension, installed on front, can be joint to our transaxles on the rear, a mechanical differential with electric traction, so that we are able to offer you a complete range to our customers, a global solution.
 We realize version like a McPherson or overlapping triangle available with disc brake or drum brake.

756 010 000



MAXIMUM LOAD CAPACITY (Kg)



800



APPLICATION

TECHNICAL SPECIFICATIONS

MAX TOTAL LOAD ON EACH WHEEL	400 Kg
MAX DYNAMIC LOAD ON EACH WHEEL	600 KG
MAX SPEED	25 Km/h
VEHICLE WHEEL BASE	1535 mm
MAX STERING ANGLE	70°
MAX BREAKING TORQUE 80 BAR	1.100 Nm each wheel

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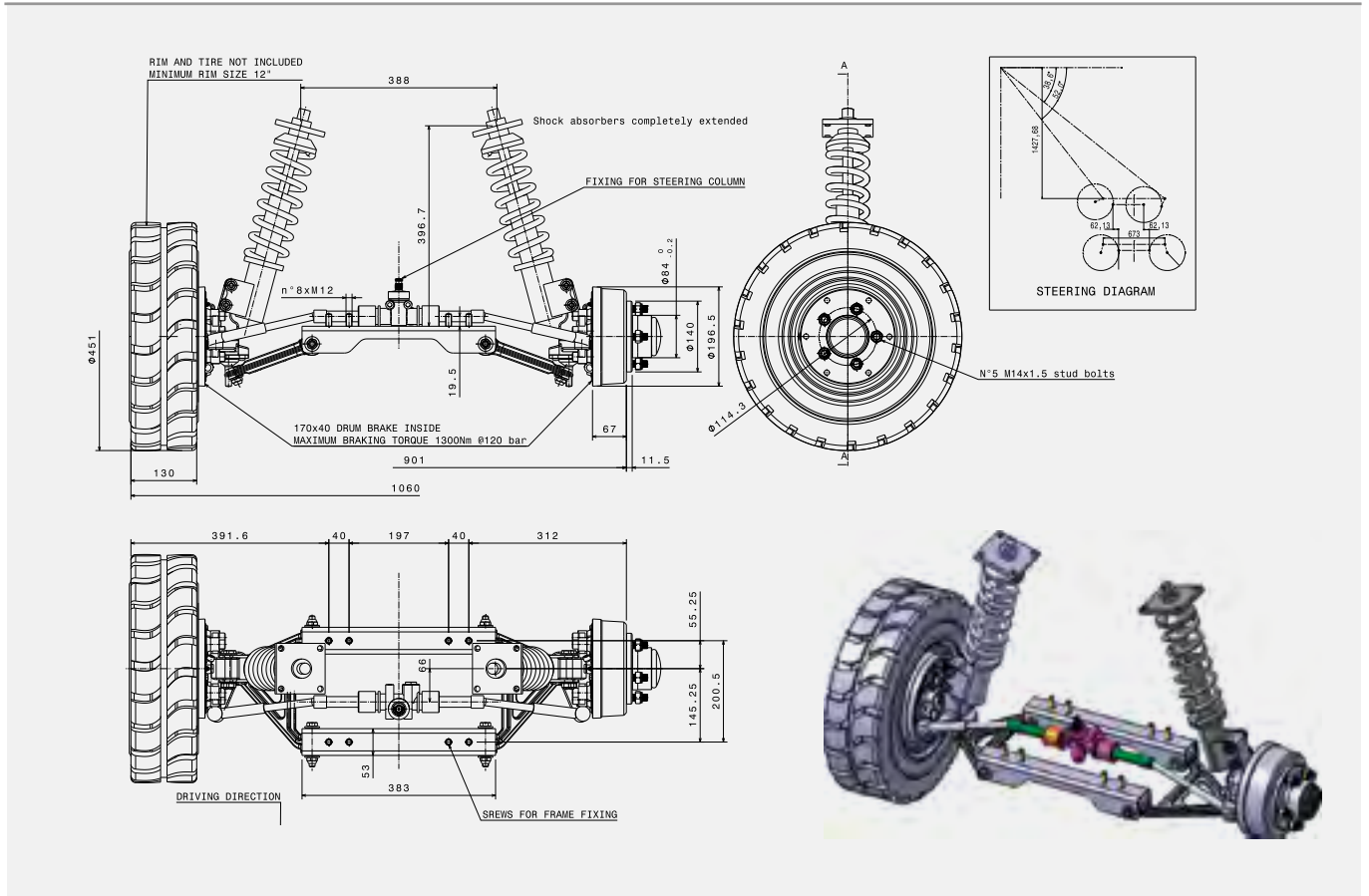
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PV 842



MAXIMUM LOAD CAPACITY (Kg)

600

APPLICATION

TECHNICAL SPECIFICATIONS

MAX TOTAL LOAD	600 Kg
MAX SPEED	40 Km/h
SERVICE DRUM BRAKES	Ø170x40

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info@borghiassali.it - sales@borghiassali.it

WWW.BORGHIASSALI.IT

CONTACT



**BORGHI
ASSALI S.r.l.**

Via Caduti di Navicello, 1
41030 Villavara di Bomporto (Modena) Italy
Phone: 059-909412
Fax: 059-909914