ELECTROWHEELS
WITH VERTICAL MOTOR

BORGHI ASSALI S.r.l.

THE HISTORY

THE HISTORY

The company was born on 4rd 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

TECHNICAL DEPARTMENT AND THE QUALITY

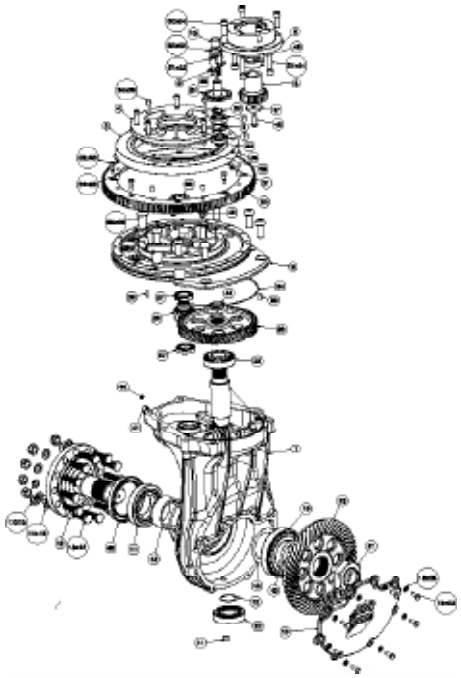
Our technical department is equipped with the most advanced systems for design and calculation facing any demand from customers preparing special products for the single applications.

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.

ELECTROWHEELS
WITH VERTICAL MOTOR



ELECTROWHEELS WITH VERTICAL MOTOR

In the smaller versions, the steering can be obtained manually through tiller attachments. In the electrowheels of the greater loading capacity the steering is obtained through chains or gears, through electrical gearmotors or hydraulic motors. It is possible to mount various types of tyres based on the requirements: superelastic or full cushion, in polyurethane or Vulkollan. Particular geometries in the profile of the gears and special surface treatments confer great quiet and smooth operation. The bodies in cast iron have been studied by means of computerized simulations and reinforced in order to guarantee great loading capacities with minimal deformations. On the electric motor it is possible to mount parking brakes and electromagnetic safety brake and with manual or hydraulic control.

ELECTROWHEELS
WITH VERTICAL MOTOR

TILLER STEERING

EBv 230
EBv 230el
EBv 250

ELECTRIC STEERING

EBv 250
EBv 310
EBv 350
EBv 400
EBv 400s
EBv 475
EBv 570
COMPARISON TABLE

TRANSPALLET

STAKER

STAKER
MAN ON BOARD

TRANSPALLET
MAN ON BOARD

LITTLE
FORKLIFTS

TOW TRACTOR

AGV

SIDE LOADERS

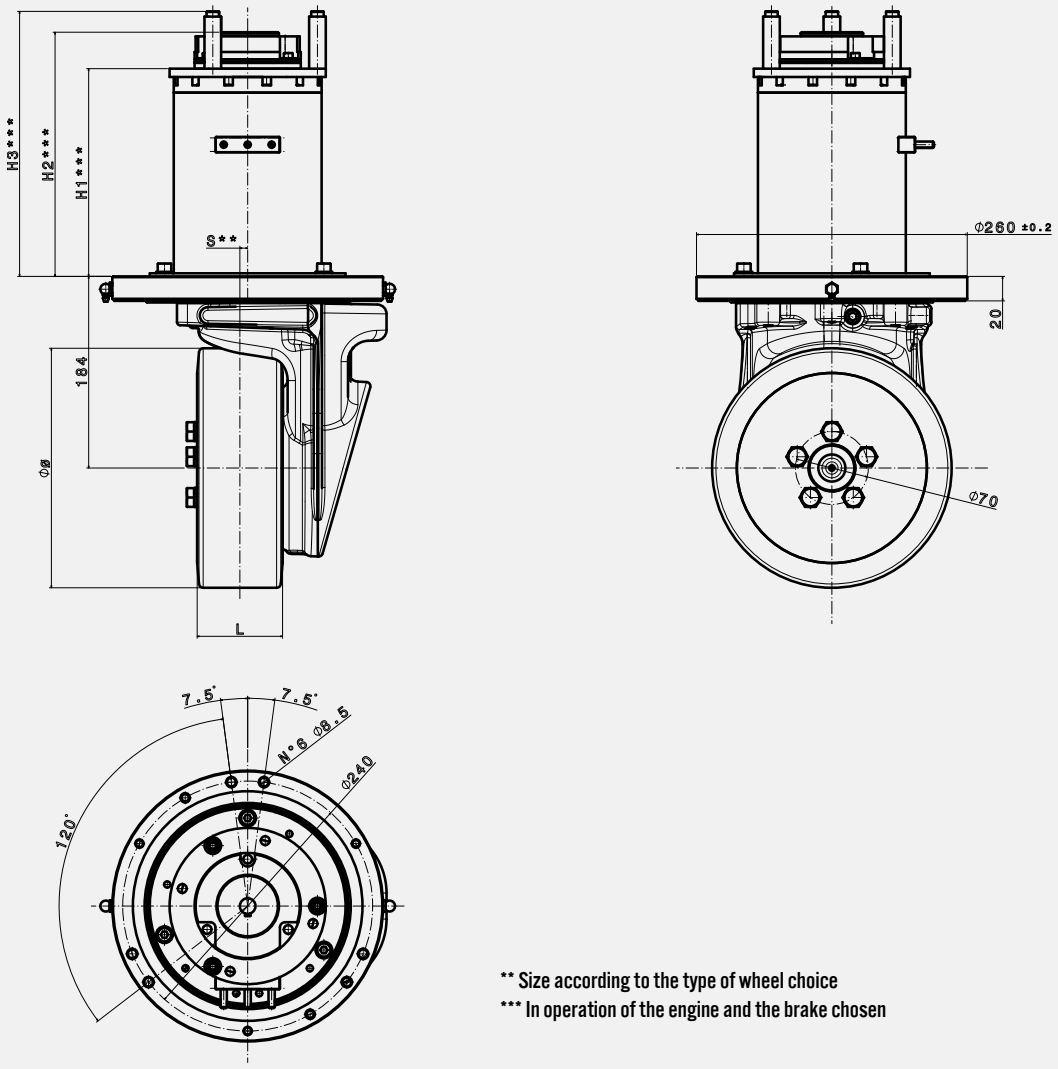
4 WAY LIFT TRUCK

PLATFORMS

CRANE

TILLER STEERING

EBv230



** Size according to the type of wheel choice
*** In operation of the engine and the brake chosen

APPLICATION

MAXIMUM LOAD ON THE WHEEL (Kg) 1200

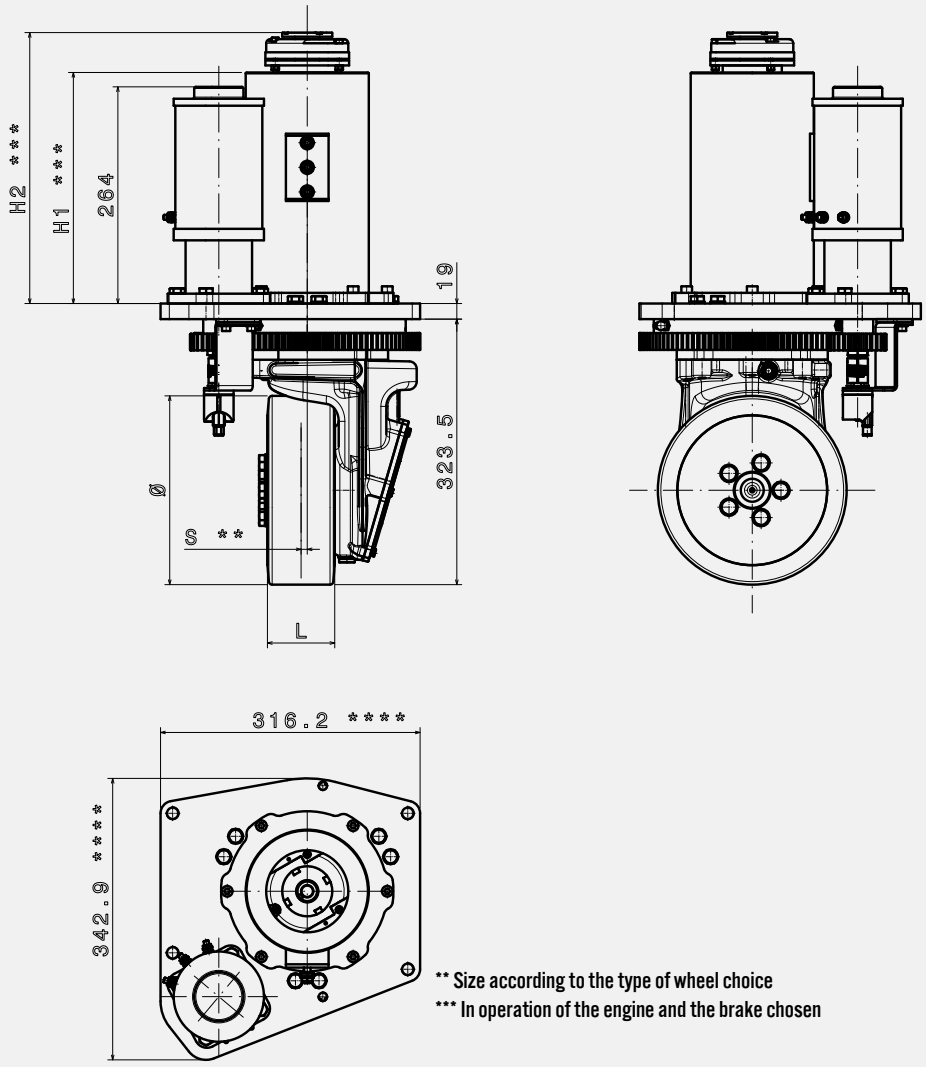
TECHNICAL SPECIFICATIONS

MAXIMUM LOAD CAPACITY	1200 kg	WHEEL DIMENSION (ØxL)*	230x75 mm	230x82 mm
REDUCTION RATIO	23/32	POWER OF STEERING MOTOR	-	
MAXIMUM POWER TRACTION MOTOR	2000 W	STEERING MOTOR POWER SUPPLY (AC)	-	
SUPPLY VOLTAGE (AC)	24/48/80 V	STEERING FEEDBACK	-	
PEAK TORQUE AT THE WHEEL	500 Nm	EM PARKING BRAKE	10/20 Nm	
CONTINUOUS TORQUE AT THE WHEEL	160 Nm	AVAILABLE TIRES	black rubber /polyurethane/ vulkolan/supertrack	

* Other types of materials and wheel at the customer's request

ELECTRIC STEERING

EBv230



** Size according to the type of wheel choice
*** In operation of the engine and the brake chosen

APPLICATION

MAXIMUM LOAD ON THE WHEEL (Kg) 1200

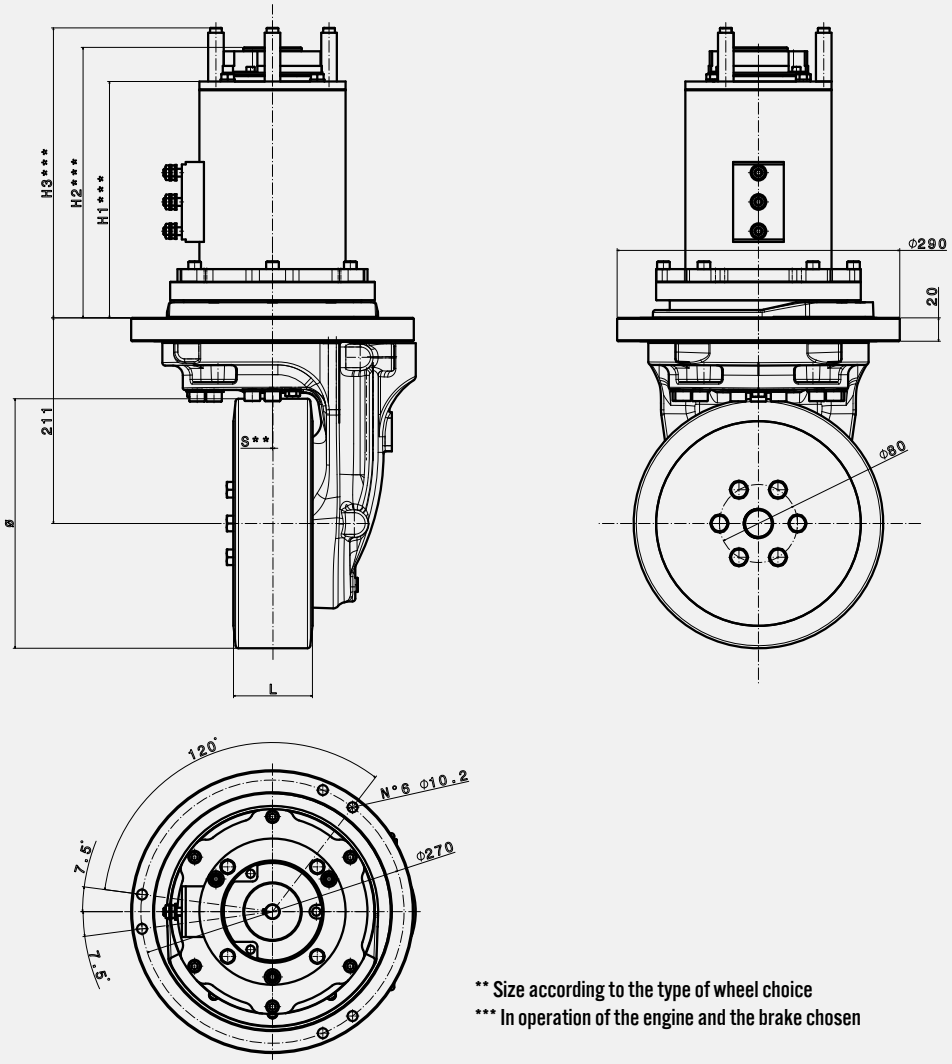
TECHNICAL SPECIFICATIONS

MAXIMUM LOAD CAPACITY	1200 kg	WHEEL DIMENSION (ØxL)*	230x75 mm	230x82 mm
REDUCTION RATIO	23/32	POWER OF STEERING MOTOR	400 W	
MAXIMUM POWER TRACTION MOTOR	2000 W	STEERING MOTOR POWER SUPPLY (AC)	24 / 48 / 80 V	
SUPPLY VOLTAGE (AC)	24/48/80 V	STEERING FEEDBACK	Rotary potentiometer / Steering sensor	
PEAK TORQUE AT THE WHEEL	500 Nm	EM PARKING BRAKE	10/20 Nm	
CONTINUOUS TORQUE AT THE WHEEL	160 Nm	AVAILABLE TIRES	black rubber /polyurethane/ vulkolan/supertrack	

* Other types of materials and wheel at the customer's request
Available on request with electric steering

TILLER STEERING

EBv250



** Size according to the type of wheel choice
*** In operation of the engine and the brake chosen

MAXIMUM LOAD ON THE WHEEL (Kg) 1650

APPLICATION

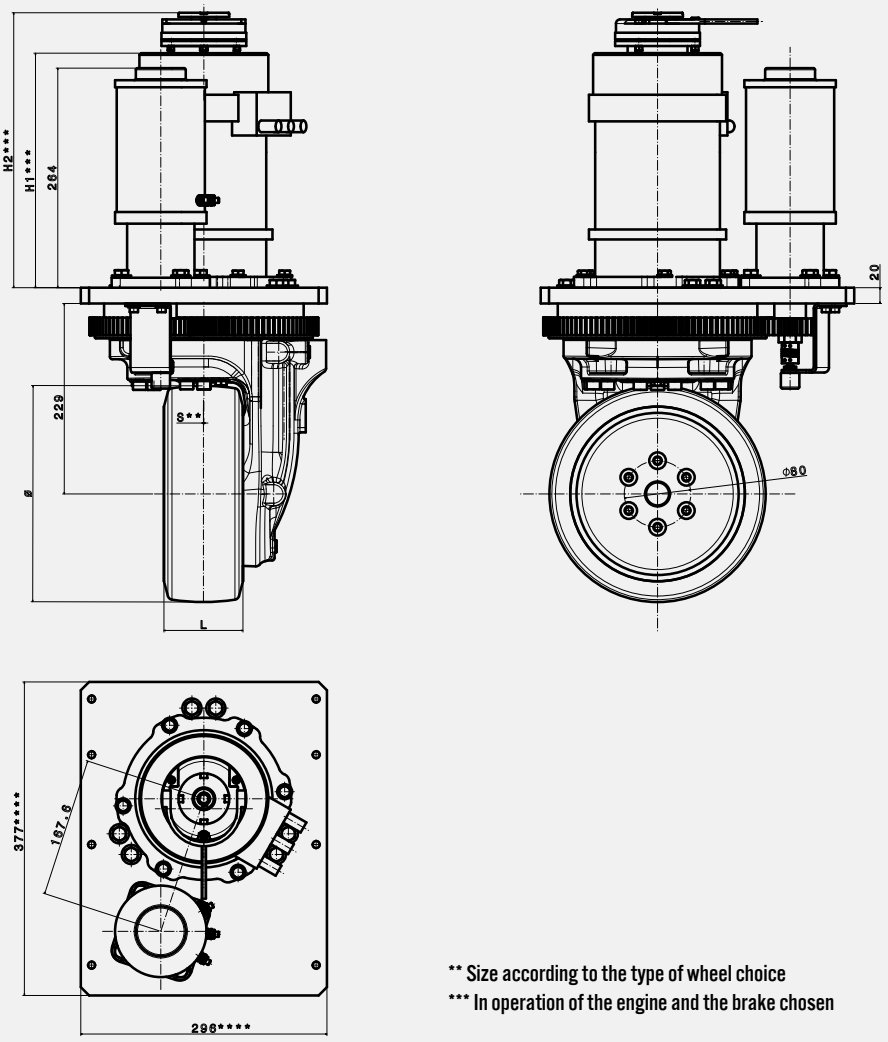
TECHNICAL SPECIFICATIONS

MAXIMUM LOAD CAPACITY	1650 kg	WHEEL DIMENSION (ØxL)*	254x82 mm	254x102 mm
REDUCTION RATIO	13/18/21/24	POWER OF STEERING MOTOR	-	
MAXIMUM POWER TRACTION MOTOR	3000 W	STEERING MOTOR POWER SUPPLY (AC)	-	
SUPPLY VOLTAGE (AC)	24/48/80 V	STEERING FEEDBACK	-	
PEAK TORQUE AT THE WHEEL	650 Nm	EM PARKING BRAKE	10/20/40 Nm	
CONTINUOUS TORQUE AT THE WHEEL	181 Nm	AVAILABLE TIRES	black rubber /polyurethane / vulkolan/supertrack	

* Other types of materials and wheel at the customer's request

ELECTRIC STEERING

EBv250



** Size according to the type of wheel choice
*** In operation of the engine and the brake chosen

APPLICATION

MAXIMUM LOAD ON THE WHEEL (Kg) 1650

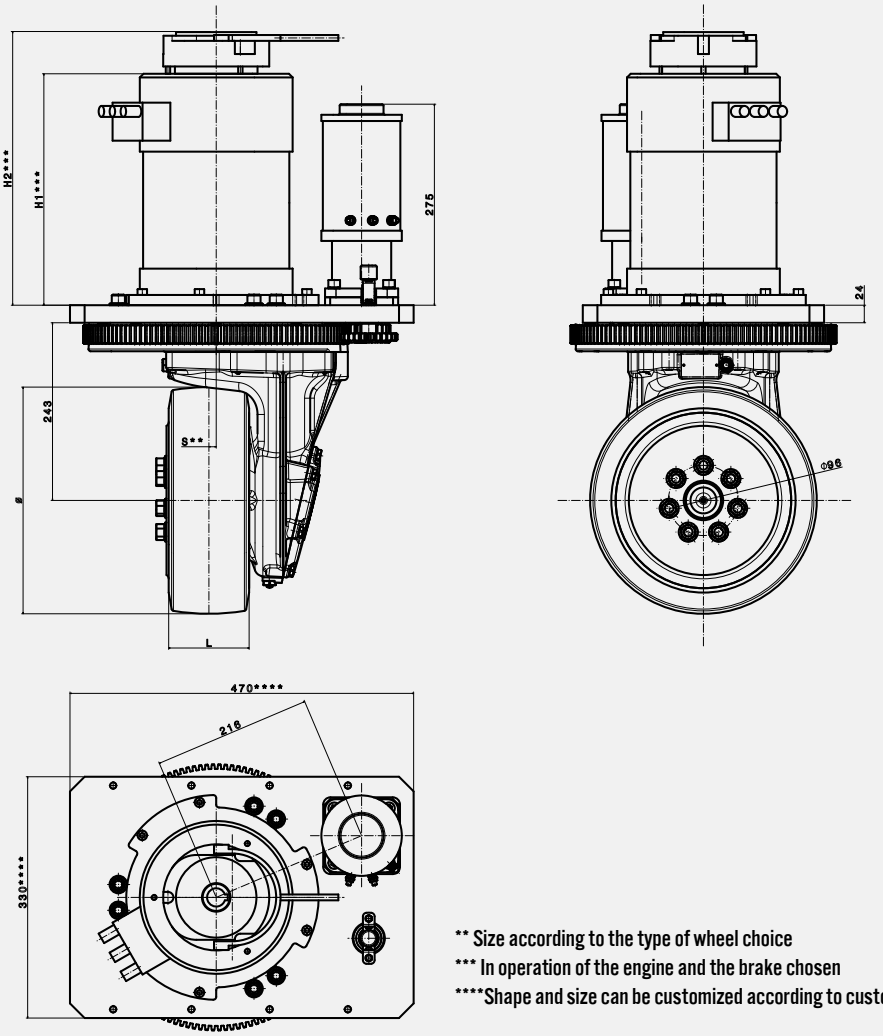
TECHNICAL SPECIFICATIONS

MAXIMUM LOAD CAPACITY	1650 kg	WHEEL DIMENSION (ØxL)*	254x82 mm	254x102 mm
REDUCTION RATIO	13/18/21/24	POWER OF STEERING MOTOR	400 W	
MAXIMUM POWER TRACTION MOTOR	3000 W	STEERING MOTOR POWER SUPPLY (AC)	24/48/80 V	
SUPPLY VOLTAGE (AC)	24/48/80 V	STEERING FEEDBACK	Rotary potentiometer / Steering sensor	
PEAK TORQUE AT THE WHEEL	650 Nm	EM PARKING BRAKE	10/20/40 Nm	
CONTINUOUS TORQUE AT THE WHEEL	181 Nm	AVAILABLE TIRES	black rubber /polyurethane / vulkolan/supertrack	

* Other types of materials and wheel at the customer's request

ELECTRIC STEERING

EBv310



** Size according to the type of wheel choice
*** In operation of the engine and the brake chosen
****Shape and size can be customized according to customer specifications

APPLICATION

MAXIMUM LOAD ON THE WHEEL (Kg) 2600

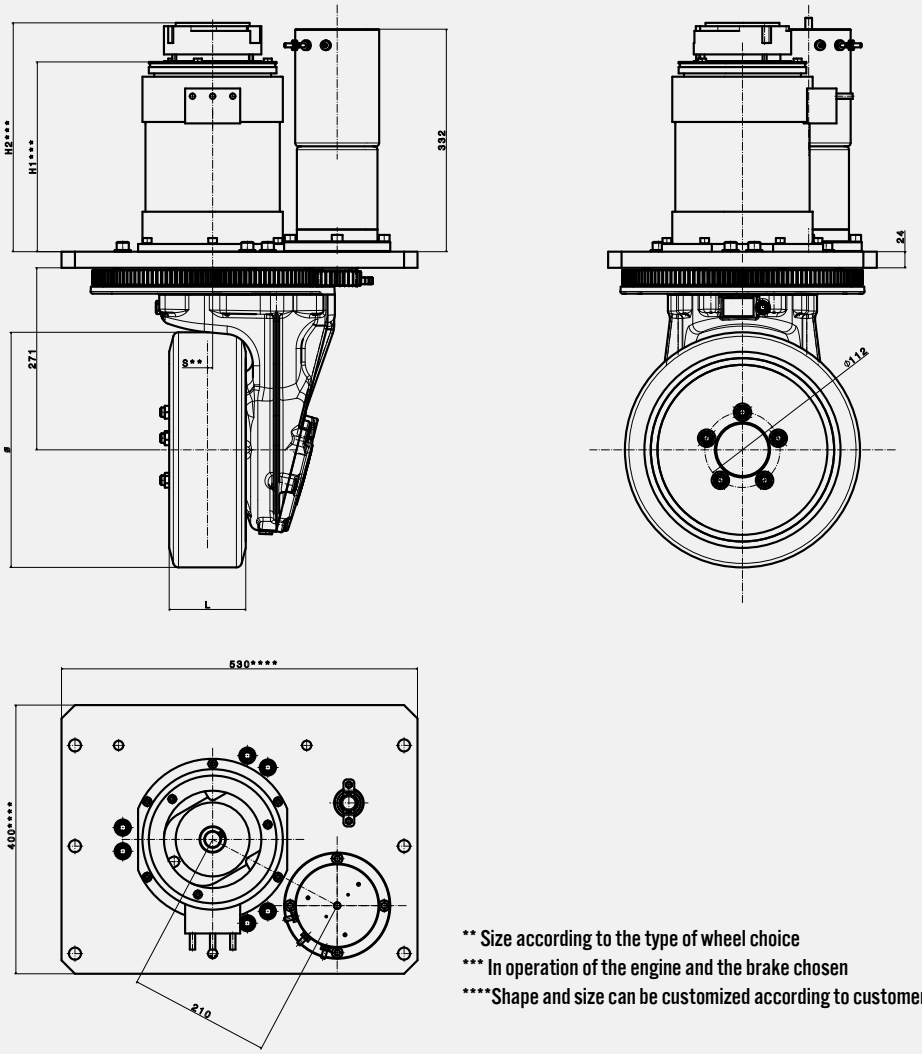
TECHNICAL SPECIFICATIONS

MAXIMUM LOAD CAPACITY	2600 kg	WHEEL DIMENSION (ØxL)*	310x110 mm
REDUCTION RATIO	24	POWER OF STEERING MOTOR	400 W / 600W
MAXIMUM POWER TRACTION MOTOR	4500 W	STEERING MOTOR POWER SUPPLY (AC)	24/48/80 V
SUPPLY VOLTAGE (AC)	24/48/80 V	STEERING FEEDBACK	Rotary potentiometer /Steering sensor
PEAK TORQUE AT THE WHEEL	1100 Nm	EM PARKING BRAKE	20/40 Nm
CONTINUOUS TORQUE AT THE WHEEL	400 Nm	AVAILABLE TIRES	black rubber /polyurethane /vulkolan/supertrack

* Other types of materials and wheel at the customer's request

ELECTRIC STEERING

EBv350



** Size according to the type of wheel choice
*** In operation of the engine and the brake chosen
****Shape and size can be customized according to customer specifications

APPLICATION

MAXIMUM LOAD ON THE WHEEL (Kg) 3200

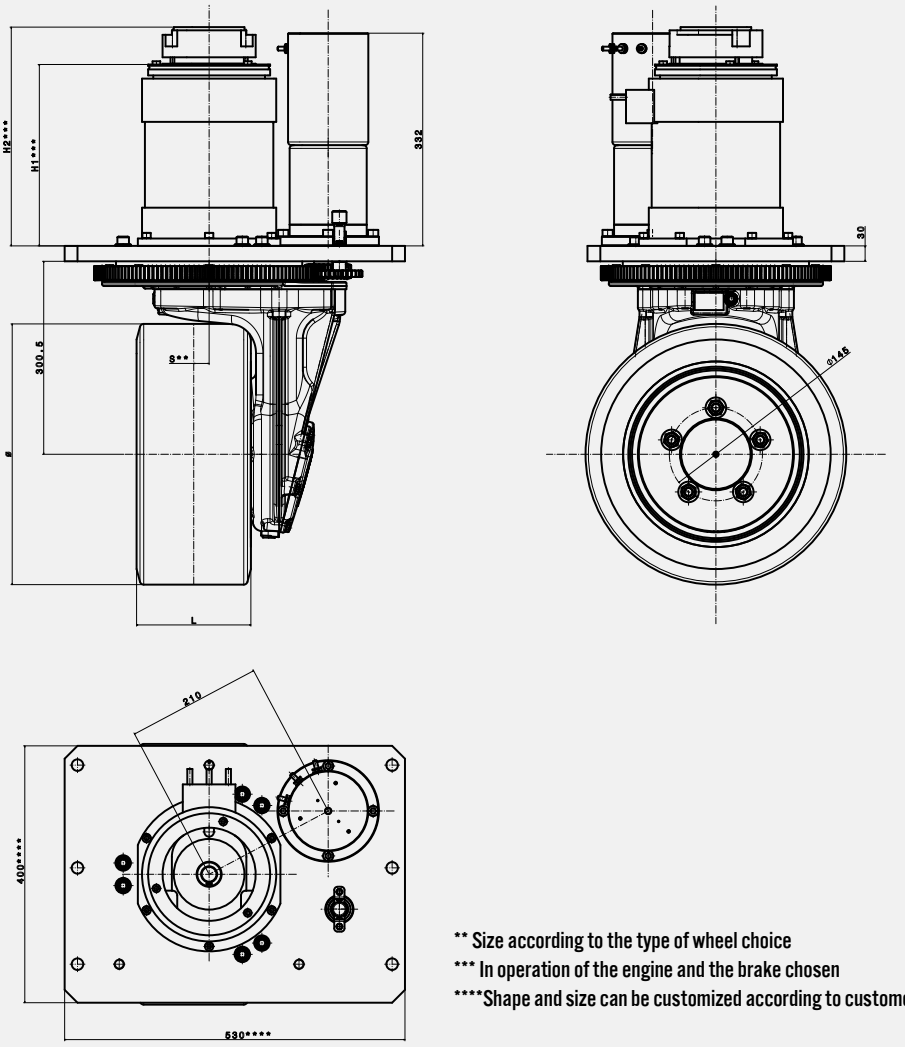
TECHNICAL SPECIFICATIONS

MAXIMUM LOAD CAPACITY	3200 kg	WHEEL DIMENSION (ØxL)*	343x114 mm	343x140mm
REDUCTION RATIO	19/22/25	POWER OF STEERING MOTOR	600 W	
MAXIMUM POWER TRACTION MOTOR	6000 W	STEERING MOTOR POWER SUPPLY (AC)	24/48/80 V	
SUPPLY VOLTAGE (AC)	24/48/80 V	STEERING FEEDBACK	Rotary potentiometer /Steering sensor	
PEAK TORQUE AT THE WHEEL	1400 Nm	EM PARKING BRAKE	20/40 Nm	
CONTINUOUS TORQUE AT THE WHEEL	453 Nm	AVAILABLE TIRES	black rubber /polyurethane / vulkolan/supertrack	

* Other types of materials and wheel at the customer's request

ELECTRIC STEERING

EBv400



** Size according to the type of wheel choice
*** In operation of the engine and the brake chosen
****Shape and size can be customized according to customer specifications

APPLICATION

MAXIMUM LOAD ON THE WHEEL (Kg) 3400

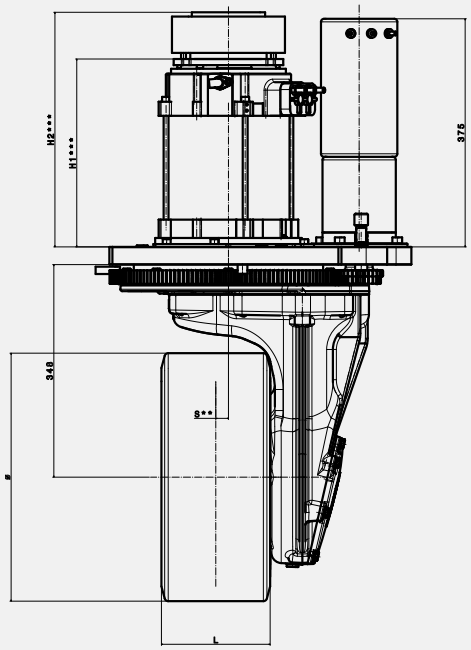
TECHNICAL SPECIFICATIONS

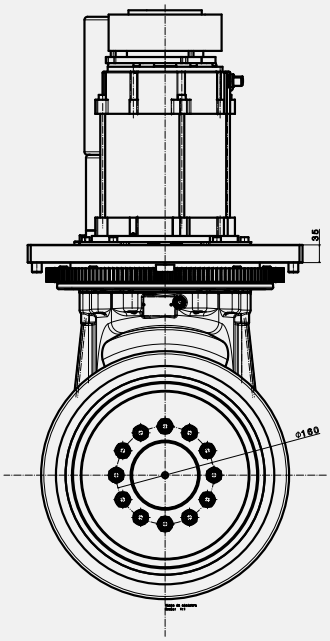
MAXIMUM LOAD CAPACITY	3400 kg	WHEEL DIMENSION (ØxL)*	405x130 mm
REDUCTION RATIO	19/22/25	POWER OF STEERING MOTOR	600 W
MAXIMUM POWER TRACTION MOTOR	6000 W	STEERING MOTOR POWER SUPPLY (AC)	24/48/80 V
SUPPLY VOLTAGE (AC)	24/48/80 V	STEERING FEEDBACK	Rotary potentiometer /Steering sensor
PEAK TORQUE AT THE WHEEL	1400 Nm	EM PARKING BRAKE	40/75 Nm
CONTINUOUS TORQUE AT THE WHEEL	453 Nm	AVAILABLE TIRES	black rubber /polyurethane/ vulkolan/supertrack / superelastic

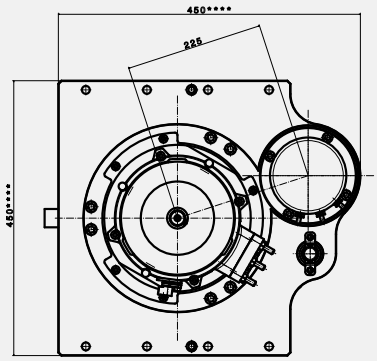
* Other types of materials and wheel at the customer's request

ELECTRIC STEERING

EBv400S







** Size according to the type of wheel choice
*** In operation of the engine and the brake chosen
****Shape and size can be customized according to customer specifications

MAXIMUM LOAD ON THE WHEEL (Kg)

APPLICATION

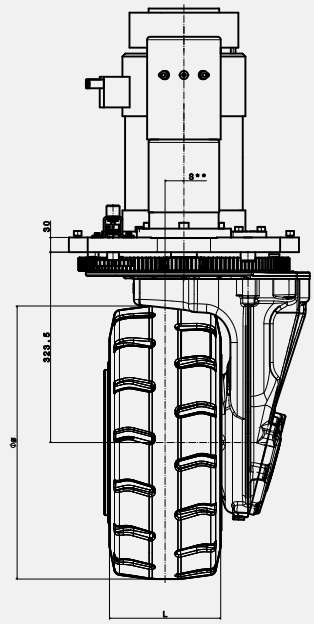
TECHNICAL SPECIFICATIONS

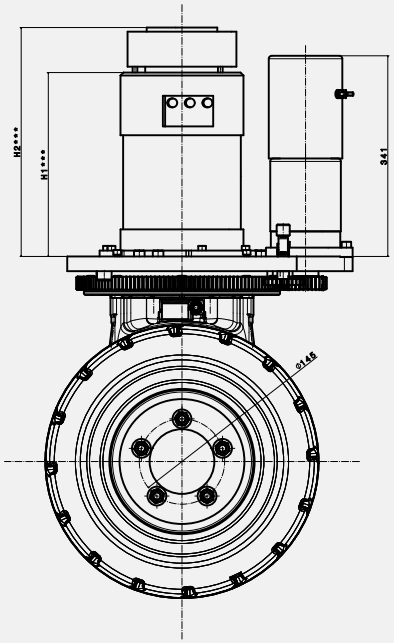
MAXIMUM LOAD CAPACITY	4500 kg	WHEEL DIMENSION (ØxL)*	405x180 mm
REDUCTION RATIO	19/22/25	POWER OF STEERING MOTOR	600 / 800 W
MAXIMUM POWER TRACTION MOTOR	8000 W	STEERING MOTOR POWER SUPPLY (AC)	24/48/80 V
SUPPLY VOLTAGE (AC)	24/48/80 V	STEERING FEEDBACK	Rotary potentiometer /Steering sensor
PEAK TORQUE AT THE WHEEL	2600 Nm	EM PARKING BRAKE	75/100 Nm
CONTINUOUS TORQUE AT THE WHEEL	900 Nm	AVAILABLE TIRES	polyurethane / vulkolan/ supertrack

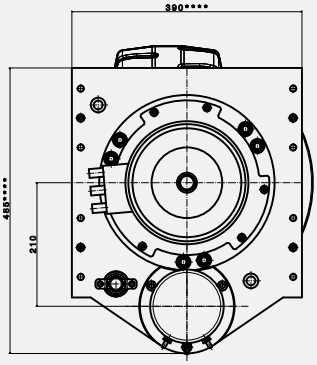
* Other types of materials and wheel at the customer's request

ELECTRIC STEERING

EBv475







** Size according to the type of wheel choice
*** In operation of the engine and the brake chosen
****Shape and size can be customized according to customer specifications

MAXIMUM LOAD ON THE WHEEL (Kg) 3400

APPLICATION

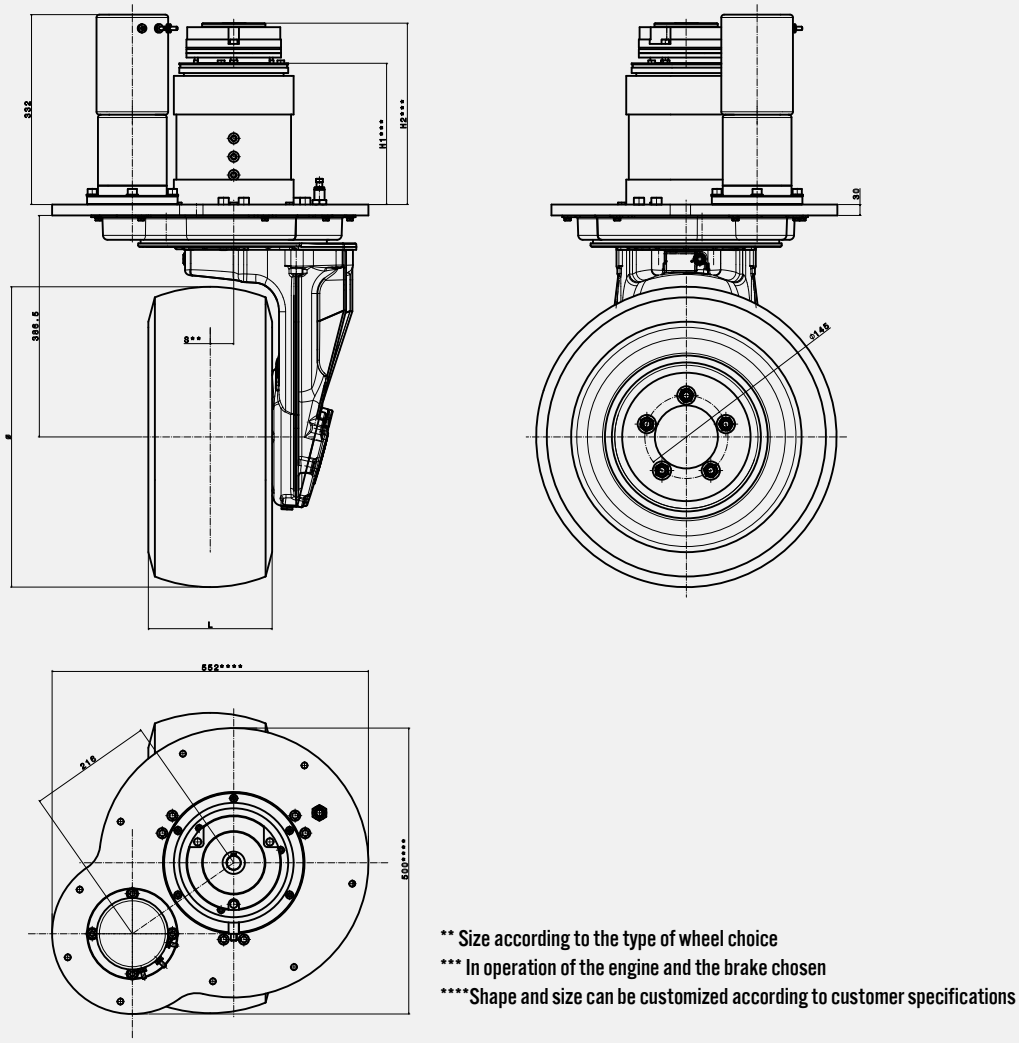
TECHNICAL SPECIFICATIONS

MAXIMUM LOAD CAPACITY	3400 kg	WHEEL DIMENSION (ØxL)*	458x187 mm	455x146 mm
REDUCTION RATIO	13/22/25	POWER OF STEERING MOTOR	600 W	
MAXIMUM POWER TRACTION MOTOR	6000 W	STEERING MOTOR POWER SUPPLY (AC)	24/48/80 V	
SUPPLY VOLTAGE (AC)	24/48/80 V	STEERING FEEDBACK	Rotary potentiometer /Steering sensor	
PEAK TORQUE AT THE WHEEL	1400 Nm	EM PARKING BRAKE	40/75 Nm	
CONTINUOUS TORQUE AT THE WHEEL	453 Nm	AVAILABLE TIRES	black rubber /polyurethane / vulkolan / supertrack / superelastic	

* Other types of materials and wheel at the customer's request

ELECTRIC STEERING

EBv570



** Size according to the type of wheel choice
*** In operation of the engine and the brake chosen
****Shape and size can be customized according to customer specifications

APPLICATION

MAXIMUM LOAD ON THE WHEEL (Kg) 3400

TECHNICAL SPECIFICATIONS

MAXIMUM LOAD CAPACITY	3400 kg	WHEEL DIMENSION (ØxL)*	524x216 mm
REDUCTION RATIO	19/22/25	POWER OF STEERING MOTOR	600 W
MAXIMUM POWER TRACTION MOTOR	6000 W	STEERING MOTOR POWER SUPPLY (AC)	24/48/80 V
SUPPLY VOLTAGE (AC)	24/48/80 V	STEERING FEEDBACK	Rotary potentiometer /Steering sensor
PEAK TORQUE AT THE WHEEL	1400 Nm	EM PARKING BRAKE	40/75 Nm
CONTINUOUS TORQUE AT THE WHEEL	453 Nm	AVAILABLE TIRES	pneumatic / superelastic

* Other types of materials and wheel at the customer's request

COMPARISON TABLE

EBV		230	250	310	350	400	400S	475	570
MAXIMUM LOAD CAPACITY	kg	1200	1650	2600	3200	3400	4500	3400	3400
REDUCTION RATIO		23/32	13/18/21/24	24	19/22/25	19/22/25	19/22/25	19/22/25	19/22/25
MAXIMUM POWER TRACTION MOTOR	W	2000	3000	4500	6000	6000	8000	6000	6000
SUPPLY VOLTAGE	V	24/48/80 AC	24/48/80 AC	24/48/80 AC	24/48/80 AC	24/48/80 AC	24/48/80 AC	24/48/80 AC	24/48/80 AC
PEAK TORQUE AT THE WHEEL	Nm	500	650	1100	1400	1400	2600	1400	1400
CONTINUOUS TORQUE AT THE WHEEL	Nm	160	181	400	453	453	900	453	453
WHEEL DIMENSION (ØXL)*	mm	230x75 / 230x82	254x82 / 254x102	310x110	343x114 / 343x140	405x130	405x180	458x187 / 455x146	524x216
POWER OF STEERING MOTOR	W	400	400	400 / 600	600	600	600 / 800	600	600
STEERING MOTOR POWER SUPPLY	V	24/48/80V AC	24/48/80V AC	24/48/80V AC	24/48/80V AC	24/48/80V AC	24/48/80V AC	24/48/80V AC	24/48/80V AC
STEERING FEEDBACK		Rotary potentiometer	Rotary potentiometer	Rotary potentiometer Steering sensor	Rotary potentiometer Steering sensor	Rotary potentiometer Steering sensor	Rotary potentiometer Steering sensor	Rotary potentiometer Steering sensor	Rotary potentiometer Steering sensor
EM PARKING BRAKE	Nm	10/20	10/20/40	20/40	20/40	40/75	75/100	40/75	40/75
AVAILABLE TIRES		black rubber polyurethane - vulkolan - supertrack	black rubber polyurethane - vulkolan - supertrack	black rubber polyurethane - vulkolan - supertrack	black rubber polyurethane - vulkolan - supertrack	black rubber polyurethane - vulkolan - supertrack - superelastic	polyurethane vulkolan - supertrack	black rubber polyurethane - vulkolan - supertrack - superelastic	superelastic pneumatic

CONTACT

info@borghiassali.it - sales@borghiassali.it
WWW.BORGHIASSALI.IT

BORGHI
ASSALI S.r.l.

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