

carer
Electric Forklift Trucks

A S

SERIES

The ideal solution
for tight spaces

**An extremely
compact forklift**



A 140 S
A 160 S
A 160/900 S
A 160/1200 S



The AS series is the maximum expression of the technological research developed by the Carer technical department. This eco-friendly and low-noise forklift truck is an excellent alternative to traditional thermal forklift trucks, contributing to reduce the impact of your work on global warming.

Nominal capacity maintained up to 3,400 mm of lifting height with integrated TW (Terminal West Carer) sideshift and positioner.

MAIN FEATURES

- **Ideal for indoor use**
 - super-elastic front and rear tyres of the same size
 - excellent ground clearance
- **Performance**
 - travel speeds of up to 13 km/h and lifting speeds of up to 0.25-0.28 m/sec
- **Two powerful AC traction motors** integrated in the front axle to generate acceleration, thanks to the generous engine torque
- High autonomy guaranteed by the efficient battery capacity of up to 96 V - 1720 Ah
- Advanced Multifunctional Display (AMD)
- Seat with mechanical suspension, weight adjustment, headrest and armrests
- Automatic parking brake
- Tilting cylinders on the roof
- Proportional speed reduction when cornering
- Side battery extraction system
- Rear camera



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Electronics

All truck functions are managed by sophisticated electronic inverters that control the 2 traction motors, lift and power steering, all using high efficiency, low maintenance AC power.

Brakes and energy regeneration

Parking and emergency braking in oil bath that operates automatically.

Dynamic braking is electric and is carried out by the two traction motors in counter current.

Braking and energy regeneration can be carried out by braking, releasing the accelerator, reversing the direction and by positive dynamic braking.

Motors

The electric motors are built and tested by CARER using the most advanced technologies.

The AC electric motors have a high torque, which guarantees speed, acceleration and manoeuvrability.

The highly advanced manufacturing technique of the motors make them reliable and durable even under stress, and they don't require maintenance.

The two 20 kW traction motors and 52 kW pump motor for lifting, are fitted with helical gears that guarantee performance and silence even when working at high speeds.

The motors have an IP54 protection rating against dust and water ingress and can also be used in damp and dusty environments. The new front axle consists of two independent units, right and left gear motor, housed in a single block for maximum flexibility and robustness.



Battery

96V battery, with a capacity of up to 1720 Ah. The battery is divided into two side-by-side boxes, allowing easy, safe and fast battery replacement.

Masts

The masts are designed and developed for maximum visibility.

The welded profiles, 8 bearings and shorter plate spacing are the key to ensuring the right balance between mast geometry and resistance to bending and twisting in all applications.

The tilting cylinders mounted on the roof structure ensure load stability, high residual capacity and reduced mast stress.

Another key feature of this forklift truck is the innovative over-wheel mounting that offers low X-elevation, compactness and light weight.





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Rear-view Camera

As standard, the forklift truck features an integrated rear-view camera to increase the driver's comfort and safety when driving in reverse.

A second camera is also available as an optional extra on the same device.

Cockpit

The protection roof is specifically designed and manufactured with a narrow pillar profile to provide high visibility in all directions.

The driver's compartment is spacious. The steering wheel can be tilted and adjusted in height. The height of the seat allows excellent visibility to the front and rear. Specifically developed to provide plenty of space and freedom of movement, even for extra-large drivers.

Advanced Multi-functional Digital Display

Via an LCD 5.7" advanced multi-functional display it is possible to adjust the vehicle settings according to the application and the needs of the operator in order to increase performance, comfort and autonomy. The display allows to monitor the speed of the forklift truck, the driving direction, battery charge status, voltage, instantaneous energy consumption, working hours for traction, pump motor and totals.

The warning lights show: parking brake inserted, brake failure, inactive seat micro, headlights and direction indicators.

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Ergonomics

The optimal driving position offers excellent visibility in all directions. Access to the forklift truck is facilitated by wide non-slip steps and a large access handle. For maximum operator comfort, the forklift truck has an ergonomically designed sky seat with mechanical suspension and lumbar support.

The armrest is integrated with mini-levers and control buttons. The pedal system can be configured to meet specific customer requirements: dual pedals, directional control on the steering wheel or armrest, dual directional pedal with central brake.

Efficiency

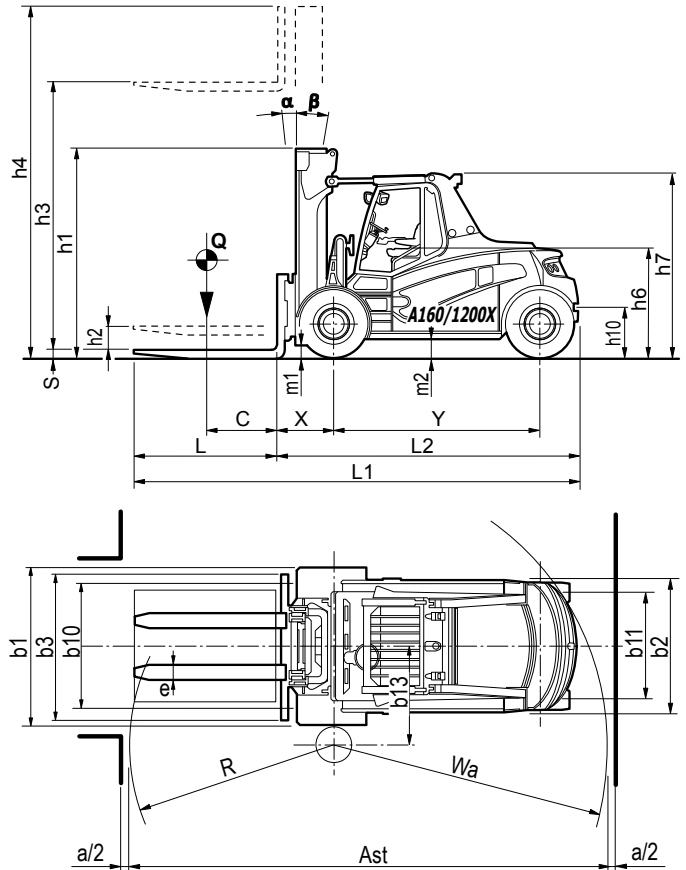
Maximum energy efficiency is ensured by the use of the best technology on the market.

The forklift truck is equipped with two traction motors with high-reduction gearboxes to provide high acceleration.

The layout of the electrical system has been designed to provide maximum efficiency and reduce Joule-effect losses.

The hydraulic system has been developed using larger pipe sections to reduce power losses and provide a significant increase in efficiency.

The electric valve bank is controlled directly by stepper motors in each section to reduce energy consumption in all operations and to improve the responsiveness of the hydraulic functions.



Optional



A wide range of optional extras allows the forklift truck to be customised for a variety of application requirements and needs: joystick, heating, air conditioning, radio with remote control, electronic key access, weight indicator system, front camera and many other accessories to improve operator comfort and help manage vehicle operating information remotely.

		C.A.R.E.R. Srl					
FEATURES	1.1	Manufacturer					
	1.2	Manufacturer's type designation		A140S	A160S	A160@900S	A160@1200S
	1.3	Drive		electric	electric	electric	electric
	1.4	Operator type		seat	seat	seat	seat
	1.5	Load capacity/rated load	Q (t)	14	16	16	16
	1.6	Load center distance	C (mm)	600	600	900	1200
	1.8	Load distance	X (mm)	700 (1) (2)	730 (1) (2)	740 (1) (2)	800 (1) (2)
	1.9	Wheelbase	Y (mm)	2620	2620	2820	3150
	WEIGHTS	2.1	Weight	(kg)	20250	22700	26050
2.2		Axle loading, laden front / rear	(kg)	31247 / 3003	35412 / 3288	38477 / 3573	41087 / 4103
2.3		Axle loading, unladen front / rear	(kg)	10300 / 9950	11290 / 11410	13170 / 12880	14930 / 14260
WHEELS	3.1	Tires type		SEGEM	SEGEM	SEGEM	SEGEM
	3.2	Tire size, front		355/50-20	355/50-20	355/50-20	355/50-20 HL
	3.3	Tire size, rear		355/50-20	355/50-20	355/50-20	355/50-20 HL
	3.5	Wheels, number front rear (x = driven wheels)		4X/2	4X/2	4X/2	4X/2
	3.6	Track width, front	b10 (mm)	1415	1415	1415	1415
	3.7	Track width, rear	b11 (mm)	1460	1460	1460	1460
	DIMENSIONS	4.1	Tilt of mast / fork carriage forward / backward	α/β (°)	6/9°(2)	6/9°(2)	6/9°(2)
4.2		Closed mast height	h1 (mm)	3550	3550	3850	4000
4.3		Free lift	h2 (mm)	0	0	0	0
4.4		Lift (standard mast)	h3 (mm)	3400	3400	3400	3400
4.5		Height, mast extended	h4 (mm)	5250	5250	5850	6150
4.7		Height of overhead guard	h6 (mm)	2950	2950	2950	2950
4.8		Seat height	h7 (mm)	1700	1700	1700	1700
4.12		Coupling height	h10 (mm)	800	800	800	800
4.19		Overall length	L1 (mm)	4990	5030	5840	6830
4.20		Length to face of forks	L2 (mm)	3790	3830	4040	4430
4.21		Overall width	b1/b2 (mm)	2050	2050	2050	2050
4.22		Fork dimensions	exsXL (mm)	200x70x1200	200x80x1200	200x90x1800	200x100x2400
4.23		Fork carriage iso 2328/30, FEM/A,B		TW CARER	TW CARER	TW CARER	TW CARER
4.24		Fork-carriage width	b3 (mm)	2050	2050	2050	2050
4.31		Ground clearance, laden, below mast	m1 (mm)	200	200	200	200
4.32		Ground clearance, center of wheelbase	m2 (mm)	200	200	200	200
4.33		Aisle width for pallets 1000x1200 crossways	Ast (mm)	5575	5630	5790	6156
4.34		Aisle width for pallets 800x1200 lengthways	Ast (mm)	5775	5830	5990	6356
4.35	Turning radius	Wa (mm)	3675	3675	3850	4156	
4.36	Internal turning radius	b13 (mm)	1500	1500	1540	1650	
PERFORMANCE	5.1	Travel speed, laden / unladen	(km/h)	12 / 13	12 / 13	11 / 12	11 / 12
	5.2	Lift speed, laden / unladen	(m/s)	0.21 / 0.28	0.18 / 0.27	0.16 / 0.27	0.16 / 0.27
	5.3	Lowering speed, laden / unladen	(m/s)	0.3 / 0.25	0.3 / 0.25	0.3 / 0.25	0.3 / 0.25
	5.5	Drawbar pull, laden / unladen (S2 60')	(N)	46000 / 48000	46000 / 48000	45000 / 47000	45000 / 47000
	5.6	Max. drawbar pull, laden / unladen (S2 5')	(N)	76000 / 78000	76000 / 78000	75000 / 77000	75000 / 77000
	5.7	Gradeability, laden / unladen (S2 30')	(%)	17 / 30	15 / 27	13 / 23	13 / 23
	5.8	Max. gradeability, laden / unladen (S2 5')	(%)	20 / 35	18 / 33	18 / 30	17 / 28
	5.9	Acceleration time, laden / unladen (10 m)	(s)	5 / 4.5	5.8 / 5.2	5.5 / 5	6 / 5.5
	5.10	Service brake: mech./hydr./electr.		hydraulic/electric	hydraulic/electric	hydraulic/electric	hydraulic/electric
	MOTOR / BATT.	6.1	Drive motor rating (S2 60')	(kW)	2x20	2x20	2x20
6.2		Lift motor rating (S3 20%)	(kW)	52	52	52	52
6.4		Battery voltage	U (V)	96	96	96	96
6.4.1		Rated capacity	K5 (Ah)	1680(TENSOR) / 1720(IRONCLAD)	1680(TENSOR) / 1720(IRONCLAD)	1680(TENSOR) / 1720(IRONCLAD)	1860 / 2064(IRONCLAD)
6.5		Battery weight minimum/maximum	(kg)	4300 / 4500	4300 / 4500	4300 / 4500	5000 / 5600
OTHERS	8.1	Type of drive control		inverter	inverter	inverter	inverter
	8.2	Operating pressure for attachments	(bar)	250	250	250	250
	8.4	Sound level at the driver's ear	(dBA)	-	-	-	-

(1) With positioner and TW sideshift integrated in the mast.

(2) Depending on kind of mast.

Wheels tyre legend: SE super elastic - SEGEM super elastic twins - CHS cushion - PN pneumatic - VLK vulkolan: for tires NO MARKING - OIL RESISTANT, please contact CARER.

The performance data refer to a forklift truck in perfect working condition, with battery weight corresponding to the values given in 6.5.

In accordance with VDI Guideline 2198 this specification sheet provides details of the standard truck only. Non-standard tyres, different masts, optional equipment, etc. may result in different values.

The CARER products and specifications are subject to change without notice.



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