

EXD-S, EGD, EGD-S Technical Data.

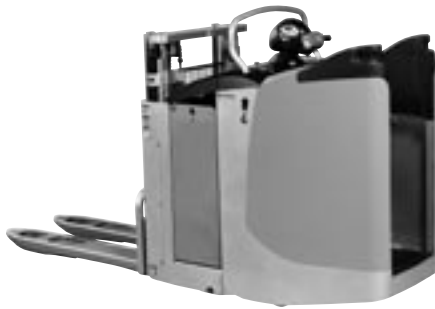


High lift pallet trucks
for double decker use.



EXD-S Technical Data.

High lift pallet trucks for double decker use with driver's stand-on platform.



The EXD-S is a heavy-duty double decker high lift pallet truck that can lift a maximum of 2,000 kilograms when using the initial lift or 2 x 1,000 kg when utilising double decker loading and unloading. Two pallets can be transported simultaneously with the EXD-S - so time can be saved by the more efficient loading and unloading of lorries.

Chassis frame.

- Optimised for loading and unloading vehicles, the EXD-S's design provides excellent driving characteristics on loading ramps, dock levellers and in the tight confines of lorries, containers and trailers.
- Acting as a slider, the lower edge of the frame will never catch on ramp edges, while the tapered platform sides allow reversing from vehicles without any risk of damage to the trailer side walls or loading dock seals, even when loading the final two pallet rows.
- The platform is an integral part of the frame, utilising a 'D-Box' structure that provides extreme reliability, even on the most violent of dock crossings.
- To optimise traction, the centre mounted drive unit is sprung and features variable wheel pressure proportional to the load on the forks.
- For lateral stability, two huge twin-caster wheels have been specially designed for the EXD-S for extreme reliability in the most arduous applications.

Steering.

- Fully electric "Fly-by-Wire" steering with automatic return to the straight-ahead position.
- In the centre steering range, any unintentional steering movements are electronically damped, to guarantee precise straight ahead driving without unwanted steering movements.
- Automatic speed reduction during cornering combined with the support castors gives high lateral stability and reduces the centrifugal force effects on the operator.

Multi-function controls.

- The new multi-function control "COCKPIT" contains all the functions for access, operation and monitoring on the EXD-S.
- Due to the ergonomic layout of the buttons, all functions can be reached with either hand without changing grip.
- The following functions are integrated in the COCKPIT:
 - Direction and speed control
 - Steering
 - Lifting and lowering: Lift and initial lift
 - Lifting and lowering

- Work hour meter
- Discharge battery indicator
- Alternative drive profiles
- Access control (provided as standard through PIN code entry)
- Diagnosis (by means of service code)
- In addition, the COCKPIT provides a secure support for the operator whilst driving.

Driver's stand-on platform.

- Depending on the application, the EXD-S is available with two platform types that have been ergonomically matched to the driver's needs. These needs are very different from one type of job to another, so there is no need to compromise by having only one platform type.
- For predominantly cross docking applications where pallet transfer or long travel distances require the driver to spend a long time standing on the machine, the platform with side access will offer the greatest comfort and security for driving in both directions.
- If the driver has to step in and out frequently for any peripheral work, (scanning, manual handling, etc.) then the platform with open rear access is best suited.
- Either platform style provides great comfort due to the padded backrest and shaped side supports combined with an innovative, unique, fully sprung platform to protect the driver's legs and back from shocks.
- The machine incorporates various storage facilities and a holder for rolls of stretch wrap integrated within the covers.
- A writing surface with document clip is available as standard on the EXD-S.

Drive.

- Powerful, economical and hence cost saving due to the 3.0 kW AC-drive.
- The latest generation AC-controller combined with the STILL 'COCKPIT' offers the possibility to adapt the truck's performance from one drive mode to another at the touch of a button.
- In "ECO" mode ('Tortoise' button), the drive is controlled to provide low current draw and standard acceleration. This results in 15% more battery economy but the same productivity and pallet throughput as other machines of this type currently available.
- In "BOOST" mode ('Hare' button), the drive is controlled to provide very high torque / acceleration and a higher travel speed with load. While the economy remains unchanged, the productivity increases by around 25% compared to other machines of this type currently available.
- Within each mode, the drive characteristics can be further fine-tuned (speed, acceleration, braking) to precisely match application or driver preferences.
- Thanks to the speed sensor feedback to the controller, the EXD-S will start smoothly and accelerate evenly up to maximum travel speed, independent of the load on forks.
- Truck braking is activated by releasing the 'COCKPIT' drive control switch or by plugging. The AC-motor acts as a generator and recovers energy when braking. (Regenerative braking)
- When starting on a gradient, or if the drive switch is released or put into neutral, the controller will immediately detect any unintentional movement or roll-back and activate the magnetic disc brake.

Hydraulic system.

- A compact pump and 2.2 kW motor unit with a built in oil tank, solenoid valve and maximum pressure valve operates on the lift cylinder with lift cut-out.
- This powerful hydraulic system offers very short lift times, even with full load, thereby providing high productivity for loading and unloading vehicles.

Mast and initial lift.

- Optimal view when loading due to the new mast concept.
- Wider mast and improved mast shape allow an optimal view of the load.
- Capacity of the initial lift max. 2,000 kilograms, for double loading 2 x 1,000 kilograms.

Brake system.

- There are two independent brake systems.
- "Soft" braking with energy recovery, activated by releasing or reversing the drive control.
- "Emergency" braking takes place when the push-button in the COCKPIT is actuated.
- Driving is only possible when the driver is on the stand-on platform, which acts as dead-man switch.

Battery.

- The battery is easily accessible, and for two or three shift operation can be changed with a hoist, or from the side using integral roller tracks.
- Two different battery compartment options allow batteries with capacities up to 450 Ah or 600 Ah to be used.

Options.

- Unique modular accessory system using a multi-function frame bar over the battery cover.
- Adjustable A4 writing surface with paper clip.
- Preparation for data terminal.
- Additional mounting system for accessories of all types (on request).
- Load backrest (1200 or 1600 mm height).
- Cold store version (-30°C).
- 600 Ah battery compartment.
- Advanced access control and fleet management with STILL FleetManager.

Safety.

- Trucks are built to the EC Guidelines 98/37 and carry the CE symbol.
- STILL is certified to ISO 9001.
- Speed reduction when loading at height thanks to OPTISPEED



The EXD-S can take two pallets at the same time.



At 720 mm wide the EXD-S is the best option for loading and unloading lorries.



Optimal view onto the load thanks to the new mast concept.

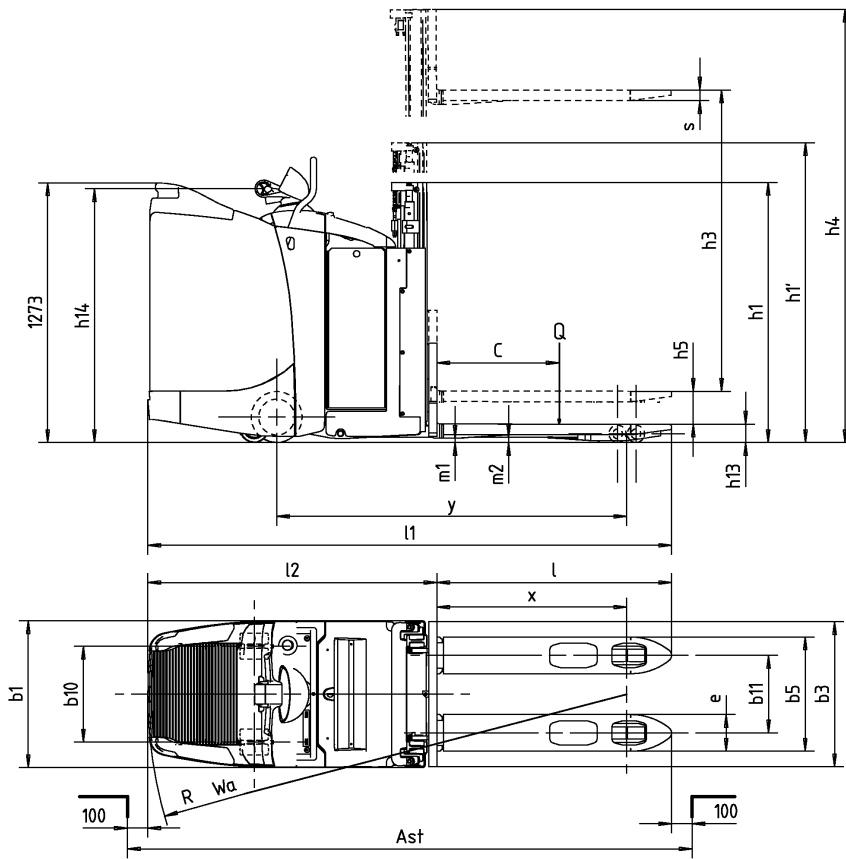
EXD-S Technical Data.

In accordance with VDI guidelines 2198, this specification applies to the standard model only.
Alternative tyres, mast types, ancillary equipment, etc. could result in different values.

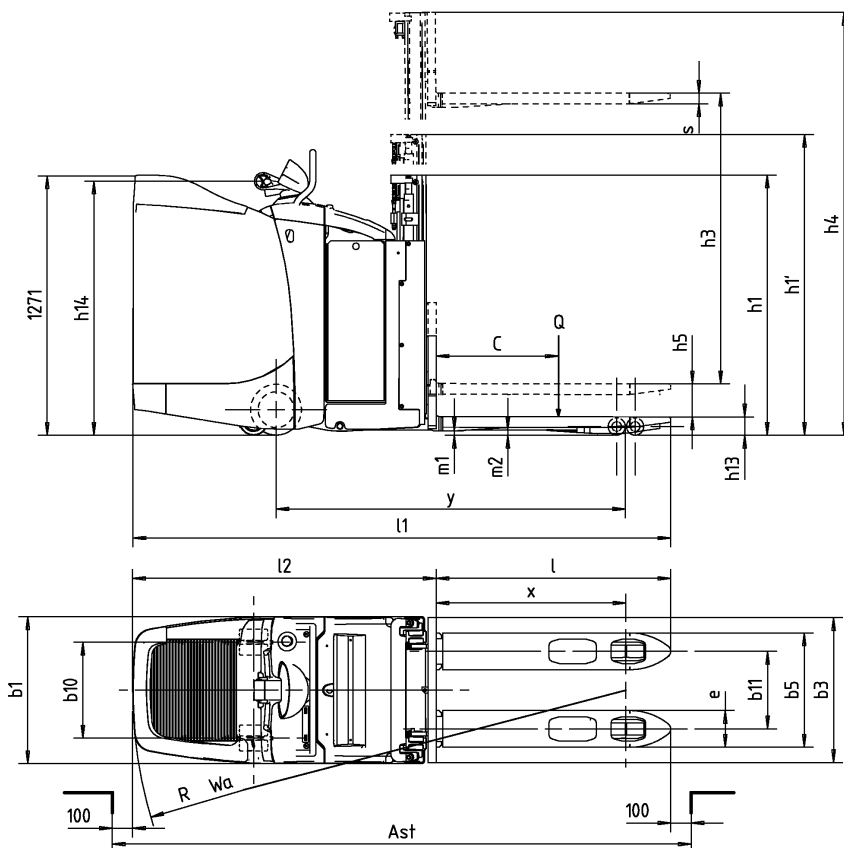
				STILL	STILL	
Characteristics	1.1	Manufacturer				
	1.2	Manufacturer's model designation		EXD-S with fixed platform. open at back	EXD-S with fixed platform. open at side	
	1.3	Power supply (electric, diesel, petrol, gas, mains electric)		Electric	Electric	
	1.4	Type of control (hand, pedestrian, stand-on, rider seated, order picker)		Stand-on	Stand-on	
	1.5	Capacity/load	Q	kg	2000 ¹⁾	2000 ¹⁾
	1.6	Nominal load centre		c	mm	600
	1.8	Load distance		x	mm	942
	1.9	Wheelbase		y	mm	1729
	Weight	2.1	Weight (incl. Battery)		kg	1500
2.2		Axle loadings laden	drive end/load end	kg	1550/1950	
2.3		Axle loadings unladen	drive end/load end	kg	1150/350	
Wheels/Tyres	3.1	Tyres (rubber, Vulkollan, pneumatic, polyurethane)			Vulkollan	
	3.2	Tyre size	drive end	mm	ø 250 x 100	
	3.3	Tyre size	load end	mm	ø 85 x 61.5	
	3.4	Castor wheels (size)		drive end	2*ø 140 x 54	
	3.5	Wheels, number (x=drive wheel)	drive end/load end		1x- 2/4	
	3.6	Track width		drive end	b ₁₀ mm	470
	3.7	Track width		load end	b ₁₁ mm	380
Dimensions	4.2	Height with mast retracted		h ₁	mm	1280
	4.21	Height with mast retracted, with initial lift		h ₁	mm	1410
	4.3	Free lift		h ₂	mm	H ₂ =150
	4.4	Lift height		h ₃	mm	1580
	4.5	Height with mast extended		h ₄	mm	2070
	4.8	Seat/Platform height		h ₅	mm	H ₅ =130
	4.9	Height of tiller in drive position		min./max.	h ₁₄ mm	1245
	4.15	Forks height lowered		h ₁₃	mm	91
	4.19	Overall Length		l ₁ /l ₁	mm	2568
	4.20	Length to front face of forks		l ₂ /l ₂	mm	1418
	4.21	Overall width		b ₁	mm	720
	4.22	Forks dimensions		s/e/l	mm	52/180/1150
	4.24	Fork carriage width		b ₃	mm	711
	4.25	Forks external width		b ₅	mm	560
	Performance	4.31	Floor clearance under mast, laden		m ₁	mm
4.32		Floor clearance, centre of wheelbase		m ₂	mm	25
4.34		Working aisle width for pallets 800 x 1200 lengthwise (b ₁₂ x l ₆)		A _{St} /A _{St}	mm	2768
4.35		Outer turning radius		W ₆ /W ₆	mm	2362
5.1		Travelling Speed	laden/unladen	km/h	8/11	8/11
5.2		Lifting Speed/Time	laden/unladen	s	2.0/1.8	2.0/1.8
5.21		Lift speed (main lift)	laden/unladen	m/s	15/23	15/23
5.3		Lowering Speed/Time	laden/unladen	s	1.6/1.6	1.6/1.6
5.31		Lowering speed (main lift)	laden/unladen	m/s	23/28	23/28
5.7		Max gradeability		laden/unladen	%	7/15
5.9	Acceleration time (over 10 m)		laden/unladen	s	7/5	
5.10	Service brakes				electromagnetic	
Electric motors	6.1	Drive motor, rating S2 = 60 min		kW	3	
	6.2	Lift motor, rating at S3 = 15%		kW	2.2kW S3.5	
	6.3	Batterie nach IEC 254-2; A, B, C nein			IEC 254-2 ; B	
	6.4	Battery voltage, capacity K ₅		V/Ah	24V/450	
	6.5	Battery weight +/- 5% (dependant on manufacturer)		kg	410	
	6.6	Energy consumption according to VDI cycle		kWh/h	< 1.2	
Other	8.1	Drive control			Impuls	
	8.4	Noise peak at operator's ears		dB (A)	< 70	

1) Capacity: Initial lift = 2000, Double decker use = 2 x 2000 kg i.e. 2000 kg in total Lift = 1000 kg (with initial lift lowered)

EXD-S: Entry at the rear



EXD-S: Entry at the side





Design:

- The functional design and optimal ergonomics are ideally suited for double-decker loading and unloading. Both a low lift and at the same time a high lift pallet truck, the EGD 16 offers the highest versatility and productivity.
- The cover which is made of extremely sturdy polyurethane (RIM = Reaction Injection Moulding) provides various storage facilities due to its raised edging bead, and the A4 writing surface with document clip.
- The sturdy chassis made of thick-walled steel plate is a match for hard applications.

Steering.

- Light operation allows manoeuvring in the tightest space.
- When released, the balanced, user-friendly tiller handle returns automatically to the vertical braking position by means of a gas spring.
- The sprung, centrally mounted drive unit automatically adjusts the wheel pressure on EGU-S according to the weight of the load. This feature gives optimum grip for traction and braking.
- Fixed idler castors provide a high level of lateral stability when travelling round bends or travelling unladen.

Controls.

- Tiller head made of extremely resistant plastic.
- The tiller head, with hand guard, contains cam switches for the control of travel speed and direction.
- The push buttons for hoisting and lowering the main and the initial lift and also for the signal horn can be operated without changing the grip.
- Ergonomic layout of the controls. The push buttons for the signal horn, hoisting and lowering can also be reached by a left hander for one-handed operation without changing the grip.
- Wear-free switching technology for the travel, hoist and lower motions.
- The truck will switch automatically from forward to backward travel when the impact plate in the tiller head is pressed. Once the truck is clear of the person, the plate is released and the truck will stop. To restart, the drive switch must first be brought back into the neutral position.

- Key switch, instruments and emergency off are within easy reach yet well protected.

Drive.

- Comfortable, economical and hence cost saving operation thanks to the electronic controller with MOSFET technology as standard.
- Sensitive driving response, independent of the load, thanks to the shunt wound drive motor.
- The truck starts smoothly and accelerates evenly up to maximum travel speed.
- The truck is braked when driving by releasing the drive switch or by plugging. The drive motor acts as a generator and is used to recover energy when braking.
- When starting on a gradient, or if the drive switch is released or put into neutral, the controller and the drive respectively come immediately into effect and thus prevent uncontrolled rolling back.

Mast.

The nested I-beam mast sections with the chains running behind them give a clear view onto the load being picked up.

Hydraulic system.

- A compact pump and motor unit with a built in oil tank, solenoid valve, lowering control valve and maximum pressure valve.
- Main lift and initial lift are controlled by push buttons in the tiller head.
- Hoist and lowering speed are proportionally controlled by depressing the buttons to a suitable degree.

Initial lift

- Using the straddle legs supported by the wheels it is possible to transport a 2nd pallet at the same time in double decker applications on lorries or in the warehouse.
- Increases the floor clearance from 120 mm making it possible to drive over uneven floors and changes of gradient.

Brake system.

- The brakes comprise two independent systems - a solenoid operated disc brake on the drive motor for parking, and regenerative braking through the drive motor during use.
- The brake is applied automatically when the tiller is moved to the horizontal or vertical position. ('Dead-man' braking).

Tandem load rollers

Rocker mounting gives a climbing action; a distinct advantage on uneven floors, for lift access and loading bridges.

Battery.

- Advanced drive controller technology provides reduced energy requirement. This allows the use of batteries with a lower Ah capacity even with extended working hours. The battery is easily accessible and can be changed with a hoist or to the side for two or three-shift operation.

Options.

- Work hour meter
- Combi-instrument to display operating hours and battery state of charge
- Single load rollers
- Hinged driver's stand-on platform
- Load backrest

EGD, EGD-S Technical Data.

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Alternative tyres, mast types, ancillary equipment, etc. could result in different values.

				STILL	STILL		
Characteristics	1.1	Manufacturer					
	1.2	Manufacturer's model designation		EGD 16	EGD-S with folding platform and hinged side guards		
	1.3	Power supply (electric, diesel, petrol, gas, mains electric)		electric	electric		
	1.4	Type of control (hand, pedestrian, stand-on, rider seated, order picker)		Pedestrian	stand-on		
	1.5	Capacity/load	Q	kg	1600 ¹⁾	1600	
	1.6	Load centre	c	mm	600	600	
	1.8	Load distance	x	mm	982	982	
	1.9	Wheelbase	y	mm	1515	1654	
	Weight	2.1	Weight (inc. battery)		kg	980	1218
2.2		Axle loadings laden	drive end/load end	kg	1100/1480	1254/1564	
2.3		Axle loadings unladen	drive end/load end	kg	765/215	952/266	
Wheels/Tyres	3.1	Tyres (rubber, Vulkollan, pneumatic, polyurethane)			Vulkollan	Vulkollan	
	3.2	Tyre size	drive end	mm	ø 230 x 75	ø 250 x 80	
	3.3	Tyre size	load end	mm	ø 85 x 61.5	ø 85 x 61.5	
	3.4	Support rollers	drive end		ø 150 x 50	ø 150 x 50	
	3.5	Wheels, number (x=drive wheel)	drive end/load end		1 x -2/4	1 x -2/4	
	3.6	Track width	drive end	b ₁₀	mm	520	520
	3.7	Track width	load end	b ₁₁	mm	383	383
Dimensions	4.2	Height with mast retracted		h ₁	mm	1275	1275
	4.21	Height with mast retracted, with initial lift		h ₁	mm	1395	1395
	4.3	Free lift		h ₂	mm	-	-
	4.4	Lift height		h ₃	mm	1544	1544
	4.5	Height with mast extended		h ₄	mm	2080	2080
	4.6	Initial lift		h ₅	mm	120	120
	4.9	Height of tiller in drive position	min./max.	h ₁₄	mm	880/1480	1087/1213
	4.15	Height lowered		h ₁₃	mm	91	91
	4.19	Overall length		l ₁ /l ₁	mm	1975	2501/2187
	4.20	Length to front face of fork		l ₂ /l ₂	mm	785	1311/997
	4.21	Overall width		b ₁	mm	700	700/792
	4.22	Fork dimensions		s/e/l	mm	56/184/1190	56/184/1190
	4.24	Fork carriage width		b ₃	mm	680	680
	4.25	Overall fork width		b ₅	mm	564	564
	4.31	Floor clearance under mast, laden		m ₁		36+120	36+120
4.32	Floor clearance, centre of wheelbase		m ₂	mm	35+120	35+120	
4.34	Working aisle width, with 800 x 1200 pallet lengthwise (b ₁₂ x l ₆) ¹⁾		A _{st} /A _{st}	mm	2426	3025/2765	
4.35	Outer turning radius		W ₆ /W ₆	mm	1770	2369/2110	
Performance	5.1	Speed	laden/unladen	km/h	6.0/6.0	8/11.2/4/5.5	
	5.2	Lifting time (basic lift)	laden/unladen	s	2.0/1.8	0.13/0.21	
	5.21	Lift speed (main lift)	laden/unladen	m/s	0.11/0.20	-	
	5.3	Lowering time (basic lift)	laden/unladen	s	1.6/1.6	0.27/0.16	
	5.31	Lowering speed (main lift)	laden/unladen	m/s	0.20/0.14	1.0/1.4	
	5.8	Gradeability	laden/unladen	%	7/10	7/10/5/7	
	5.9	Acceleration time (over 10 m)	laden/unladen	s	8.7/7.7	6.9/5.1	
	5.10	Brakes				elektro-magnetic	elektro-magnetic
	Electric Motors	6.1	Drive motor, rating S2 = 60 min.		kW	1.2	2.0
		6.2	Hoist motor, rating S3 = 15%		kW	2.0	2.0
6.3		Battery to IEC 254-2; A, B, C, no			IEC 254-2; B	IEC 254-2; B	
6.4		Battery voltage, capacity K _s		V/Ah	24 V/200	24 V/330	
6.5		Battery weight +/- 5% (dependent on manufacturer)		kg	185	288	
6.6		Energy consumption according to VDI cycle		kWh/h	0.62	1.2	
Other	8.1	Drive control			Impuls	Impuls	
	8.4	Noise peak at operator's ears		dB (A)	65		

1) Capacity: Initial lift = 1600, Double decker use = 2 x 800 kg i.e. 2000 kg in total Lift = 1200 kg (with initial lift lowered)

Safety

- Trucks are built to the EC Guidelines 98/37 and carry the CE symbol.
- STILL is certified to ISO 9001.



For further information on the EXD-S
please visit: www.still.de/EXD-S

STILL GmbH
Berzeliusstrasse 10
D-22113 Hamburg
Telephone: +49 (0)40/73 39-2000
Telefax: +49 (0)40/73 39-2001
info@still.de
www.still.de

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