STILL

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RX 50-10
RX 50-13
RX 50-15
RX 50-16

RX 50 Technical Data.

Electric Forklift Trucks

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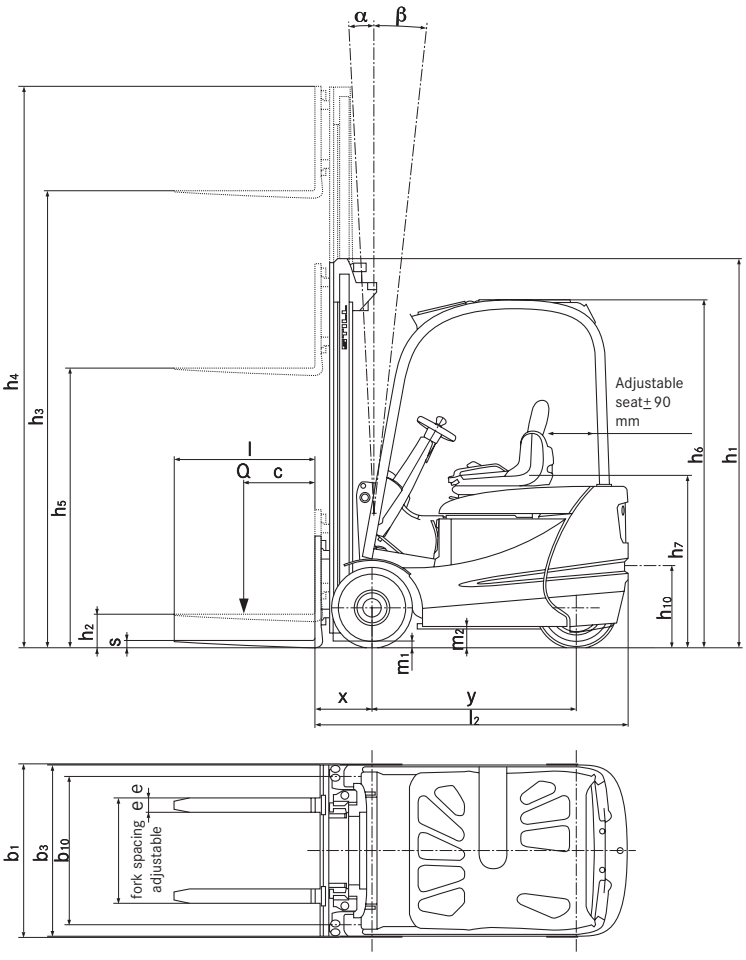
In accordance with VDI guidelines 2198, this specification applies to the standard model only.
Alternative tyres, mast types, ancillary equipment, etc. could result in different values.

Characteristics	1.1	Manufacturer			STILL			STILL				
	1.2	Manufacturer's model designation			RX 50-10			RX 50-13				
	1.3	Manufacturer's model designation			electric			electric				
	1.4	Control - hand, pedestrian, stand-on, rider seated			rider seated			rider seated				
	1.5	Carrying capacity/load	Q	kg	1000			1250				
	1.6	Load centre	c	mm	500			500				
	1.8	Load distance	x	mm	298			325				
	1.9	Wheelbase (Mast Forward/Vertical/Back)	y	mm	997	1030	1096	1079	1112	1178	1129	
Weights	2.1	Weight		kg	2228		2210	2538	2520	2502	2748	
	2.2	Axle loadings laden front		kg	2847		2805	3279	3265	3251	3697	
	2.2.1	Axle loadings laden rear		kg	381		405	509	505	497	551	
	2.3	Axle loadings unladen front		kg	1072		1060	1102	1090	1074	1132	
	2.3.1	Axle loadings unladen rear		kg	1156		1150	1436	1430	1424	1616	
Wheels | tyres	3.1	Tyres - rubber (V), SE, pneu. (L), poly. (PE)			V		SE	V	SE	L	V	
	3.2	Tyre size - front			16 x 6 x 10 1/2		16 x 6-8	16 x 6 x 10 1/2	18 x 7-8	18 x 7-8/16PR	16 x 7 x 10	
	3.3	Tyre size - rear			16 x 6 x 10 1/2		16 x 6-8	16 x 6 x 10 1/2	18 x 7-8	18 x 7-8/16PR	16 x 7 x 10	
	3.5	Wheels - number front (x = drive wheel)			2			2				
	3.5.1	Wheels - number rear (x = drive wheel)			1x			1x				
	3.6	Track width - front	b_{10}	mm	848			835	842	870	853	
	3.7	Track width - rear	b_{11}	mm	0			0				
Dimensions	4.1	Tilt angle, mast/fork carriage forwards		°	3			3				
	4.1.1	Tilt angle, mast/fork carriage backwards		°	6			6				
	4.2	Closed height	h_1	mm	2260			2260				
	4.3	Free lift	h_2	mm	150			150				
	4.4	Lift height	h_3	mm	3430			3430				
	4.5	Height, mast raised	h_4	mm	4080			4080				
	4.7	Height to top of overhead guard (cabin)	h_6	mm	2065*			2080**				
	4.8	Seat height	h_7	mm	920			935				
	4.12	Coupling height	h_{10}	mm	420			435				
	4.19	Overall length	l_1	mm	2423			2527				
	4.20	Length to front face of forks	l_2	mm	1623			1727				
	4.21	Overall width	b_1	mm	1006		998	993	996	1043	1037	
	4.22	Fork thickness	s	mm	35			35				
	4.22.1	Fork width	e	mm	80			80				
	4.22.2	Fork length	l	mm	800			800				
	4.23	Fork carriage to DIN 15173 - class/form A or B			ISO II B			ISO II B				
	4.24	Fork carriage width	b_3	mm	980			980				
	4.31	Ground clearance beneath mast, laden	m_1	mm	90			90				
	4.32	Ground clearance at centre of wheelbase	m_2	mm	100			100				
	4.33	Aisle width for pallets 1000 x 1200 wide	A_{st}	mm	2955			3058				
	4.34	Aisle width for pallets 800 x 1200 long	A_{st}	mm	3075			3180				
	4.35	Outer turning radius	W_a	mm	1325			1403				
	4.36	Inner turning radius	b_{13}	mm								
Performance	5.1	Speed laden		km/h	11.5			12				
	5.1.1	Speed unladen		km/h	12			12.5				
	5.2	Lift speed laden		m/s	0.32			0.31				
	5.2.1	Lift speed unladen		m/s	0.52			0.52				
	5.3	Lowering speed laden		m/s	0.54			0.54				
	5.3.1	Lowering speed unladen		m/s	0.6			0.6				
	5.5	Rated drawbar pull laden		N	1650			1400				
	5.5.1	Rated drawbar pull unladen		N	1950			1700				
	5.6	Max. drawbar pull laden		N	2840			3500				
	5.6.1	Max. drawbar pull unladen		N	8200			7500				
	5.7	Gradeability laden		%	6.5			5				
	5.7.1	Gradeability unladen		%	11			8.5				
	5.8	Max. gradeability laden		%	19			19				
	5.8.1	Max. gradeability unladen		%	25			25				
	5.9	Acceleration time laden		s	5.3			5.4				
	5.9.1	Acceleration time unladen		s	4.7			4.8				
	5.10	Brakes			hydraulic			hydraulic				
Motors	6.1	Drive motor hourly capacity		kW	4.5			4.5				
	6.2	Hoist motor capacity at 20% duty factor		kW	7.8			7.8				
	6.3	Battery equipment to DIN 43531/35/36 A, B, C, no			DIN 43535 A			DIN 43535 A				
	6.4	Battery voltage	U	V	24			24				
	6.4.1	Battery capacity	K_5	Ah	575 (500-625)			805 (500-875)				
	6.5	Battery weight		kg	445			600				
	6.6	Energy consumption 60 VDI work cycles/hour		kWh/h	3.3			4.0				
Other	8.1	Drive control			Stilltronic-Impulse			Stilltronic-Impulse				
	8.2	Operating pressure for attachments		bar	230			230				
	8.3	Oil flow for attachments		l/min	20			20				
	8.4	Average noise peak at operator's ears		dB(A)	< 70			< 70				
	8.5	Trailer coupling, type/DIN			pin			pin				

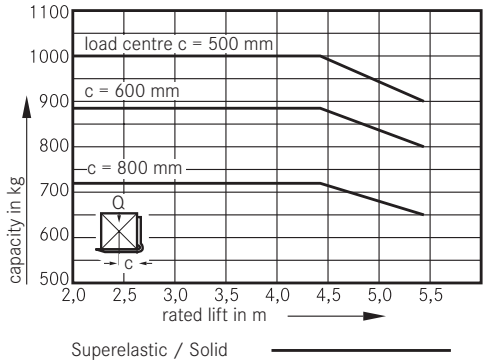
* Overhead guard height above 1965 mm available ** Overhead guard height above 1980 mm available

STILL			STILL		
RX 50-15			RX 50-16		
electric			electric		
rider seated			rider seated		
1500			1600		
500			500		
325			330		
	1162	1228	1129	1162	1228
	2730	2702	2798	2780	2762
	3685	3673	3878	3875	3854
	545	539	520	505	508
	1120	1108	1142	1130	1118
	1610	1604	1656	1650	1644
	SE	L	V	SE	L
1/2	18 x 7-8	18 x 7-8/16PR	16 x 7 x 10 1/2	18 x 7-8	18 x 7-8/16PR
1/2	18 x 7-8	18 x 7-8/16PR	16 x 7 x 10 1/2	18 x 7-8	18 x 7-8/16PR
2			2		
1x			1x		
	842	870	853	842	870
0			0		
3			3		
6			6		
2260			2260		
150			150		
3430			3430		
4080			4080		
2080**			2080**		
935			935		
435			435		
2577			2582		
1777			1782		
	996	1043	1037	996	1043
35			40		
80			80		
800			800		
ISO II B			ISO II B		
980			980		
90			90		
100			100		
3108			3117		
3230			3239		
1453			1458		
12			12		
12.5			12.5		
0.3			0.3		
0.52			0.52		
0.54			0.54		
0.6			0.6		
1280			1240		
1670			1670		
3770			3470		
7500			7500		
4			4		
8			7.5		
16			15		
25			25		
5.5			5.6		
4.9			5		
hydraulic			hydraulic		
4.5			4.5		
7.8			7.8		
DIN 43535 A			DIN 43535 A		
24			24		
920 (700-1000)			920 (700-1000)		
676			676		
4.4			4.5		
Stilltronic-Impulse			Stilltronic-Impulse		
230			230		
20			20		
< 70			< 70		
pin			pin		

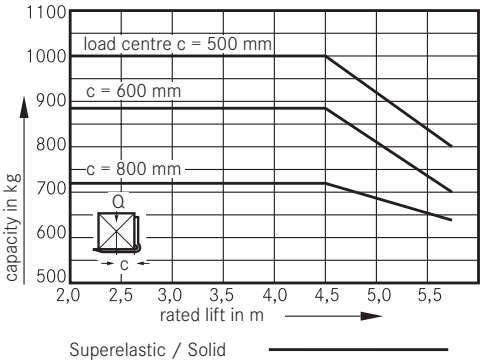


The models depicted in this brochure may contain special parts or attachments which are not supplied as standard.

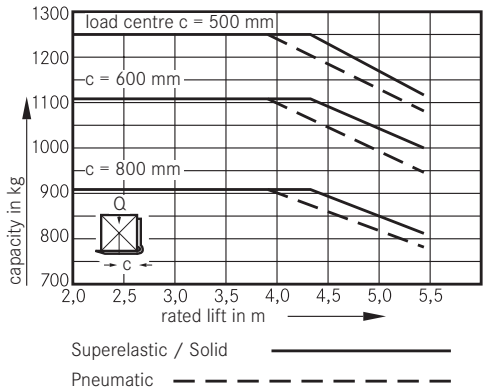
Capacities RX 50-10 Tele / HiLo mast



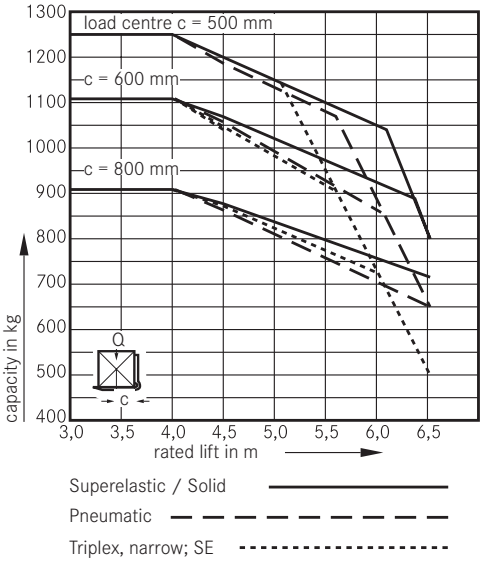
Capacities RX 50-10 Triplex mast



Capacities RX 50-13 Tele / HiLo mast



Capacities RX 50-13 Triplex mast

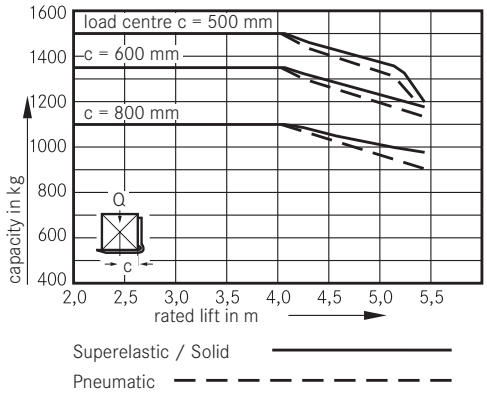


Mast Types.

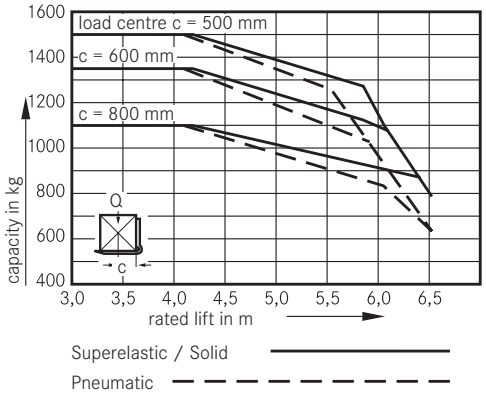
			Telescopic-Mast				HiLo-Mast		Triplex-Mast		
	Lift Height	h_3	2630-3430	3530-4430	4530-4830	4930-5430	2775-3475	3575-4075	4020-4470	4620-4920	5070-5520
	Closed Height	h_1	1860-2260	2310-2760	2810-2960	3010-3260	1860-2210	2260-2510	1860-2010	2060-2160	2210-2360
	Free Lift	h_2	150				1230-1580	1630-1880	1230-1380	1430-1530	1580-1730
	Overall Height Raised	h_4	3280-4080	4180-5080	5180-5480	5580-6080	3425-4125	4225-4725	4670-5120	5270-5570	5720-6170
RX 50-10	Angle of Tilt	$\alpha \mid \beta$	3/6				3/6		3/5		
	Wheelbase*	y	997/1030/1096				997/1030/1096		1017/1050/110		
	Overall Width	b_1 SE	998				998		1062		
		V	1006				1006		1098		
	Load Distance	x	298				298		298		
	Aisle Width Pallet 1000 x 1200 across 800 x 1200 long	A_{st}	2955/3075				2960/3080		2980/3100		
RX 50-13	Angle of Tilt	$\alpha \mid \beta$	3/6				3/6		3/5		
	Wheelbase*	y	1079/1112/1178				1079/1112/1178		1099/1132/118		
	Overall Width	b_1 SE	996				996		1186		
		V	993				993		1127		
		L	1043		1205		1043		1205		
	Load Distance	x	325				325		325		
	Aisle Width Pallet 1000 x 1200 accross 800 x 1200 long	A_{st}	3058/3180				3058/3180		3082/3199		
RX 50-15	Angle of Tilt	$\alpha \mid \beta$	3/6				3/6		3/5		
	Wheelbase*	y	1129/1162/1228				1129/1162/1228		1149/1182/123		
	Overall Width	b_1 SE	996				996		1186		
		V	1037				1037		1139		
		L	1043		1205		1043		1205		
	Load Distance	x	325				325		325		
	Aisle Width Pallet 1000 x 1200 accross 800 x 1200 long	A_{st}	3108/3230				3108/3230		3128/3249		
RX 50-16	Angle of Tilt	$\alpha \mid \beta$	3/6				3/6		3/5		
	Wheelbase*	y	1129/1162/1228				1129/1162/1228		1149/1182/123		
	Overall Width	b_1 SE	996				996		1186		
		V	1037				1037		1139		
		L	1043		1205		1043		1205		
	Load Distance	x	330				330		330		
	Aisle Width Pallet 1000 x 1200 accross 800 x 1200 long	A_{st}	3108/3230				3317/3239		3117/3239		

* Mast Forward/Vertical/Backward

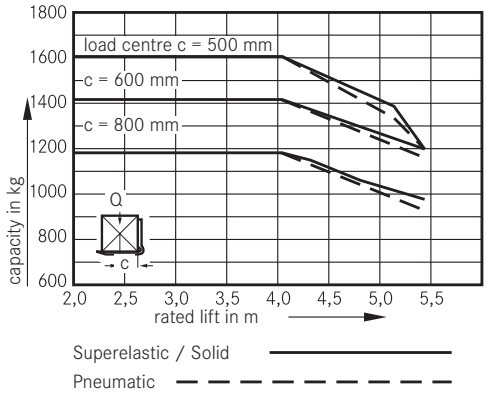
Capacities RX 50-15 Tele / HiLo mast



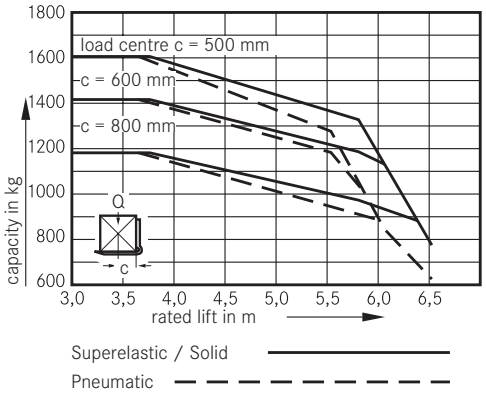
Capacities RX 50-15 Triplex mast



Capacities RX 50-15 Tele / HiLo mast



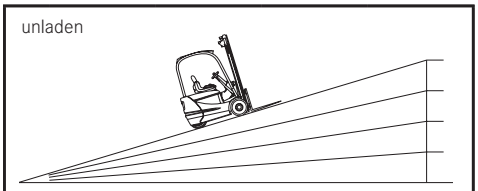
Capacities RX 50-16 Triplex mast



		Triplex-Mast, Narrow				
5620-5920	6070-6370	4020-4320	4470-4770	4920-5220	5370-5770	5920-6370
2460-2560	2610-2710	1860-1960	2010-2110	2260-2260	2310-2510	2560-2710
1830-1930	1980-2080	1230-1330	1380-1480	1530-1630	1680-1880	1930-2080
6270-6570	6720-7020	4670-4970	5120-5420	5570-5870	6020-6420	6570-7020
		-				
5		-				
		-				
		-				
		-				
		-				
		3/5				
7		1099/1132/1187				
		1073				
		1005				
		-				
		325				
		3082/3199				
		3/5		3/4		
7		1149/1182/1237		1149/1182/1225		
		1073				
		1049				
		-				
		325				
		3128/3249				
		3/5		3/4		
7		1149/1182/1237		1149/1182/1225		
		1073				
		1049				
		-				
		330				
		3137/3259				

Gradients (dry rough concrete surface - coefficient of friction = 0.8, SE tyres).

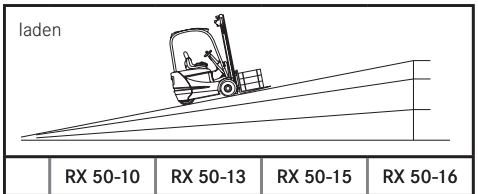
Permissible travel distance per hour in metres.



	RX 50-10	RX 50-13	RX 50-15	RX 50-16
20%	730 m	570 m	400 m	380 m
15%	1800 m	820 m	740 m	700 m
10%	6010 m	2730 m	2240 m	2100 m
5%	8400 m	7980 m	7800 m	7500 m

Example RX 50-13 (laden and with SE tyres). Gradient 10%, 10 m long.

This gradient can be negotiated 97 times an hour.



	RX 50-10	RX 50-13	RX 50-15	RX 50-16
13%	710 m	420 m	270 m	250 m
10%	1490 m	970 m	570 m	510 m
5%	6930	3900	2600	2360

Drive.

The 24 volt 3-phase drive motor acts directly on the steered rear wheel of the RX 50 and ensures high performance capability and driving dynamics. The 3-phase drive (ASM Technology) provides rapid acceleration and high gradeability. Because it is totally enclosed and there are no carbon brushes, the drive motor is maintenance-free. The drive motor acts directly on the rear steered wheel where there is a long turning radius, providing optimum drive efficiency. For frequent and tight curves, depending on the work cycle, up to 30% less energy is consumed than with twin-motor front-wheel drives. The drive is also suitable for freeing tightly wedged pallets in containers, wagons or lorries. Thanks to its electrical regenerative braking the motor can feed back up to 15% of the energy into the battery when the accelerator pedal is released, depending on the application, and thus increases the useful work from a battery charge by up to 1.5 hrs. This means that intermediate charging or changing of the battery is often not needed, or the use of a smaller battery might be possible.

Wear free electrical braking also leads to 90% less wear on the brake linings and further reduces the maintenance costs. Sensitive driving with optimal energy utilisation is guaranteed by the STILL controller. This also makes it possible to hold the truck on a ramp without using the brakes, providing greater safety and driving convenience. The drive controller is protected within the counterweight on which it is directly mounted. The heat from the controller is dissipated by the large area of the counter weight. This arrangement gives very good cooling without additional fans and makes work agreeably quiet and reliable.

Electrical system.

The electrical system of the RX 50 is digital in operation with information exchange between the electrical assemblies through a CAN bus system which is already used successfully in the automobile industry. The reduction in the number of cables and plug connectors improves the operational reliability and allows other electrical equipment to be retrofitted easily using pre-installed terminals.

Mast.

The STILL clear view mast is supported high on the frame and connected to the front axle at the bottom. Due to the wide spacing of these points the mast retains high rigidity with no twisting of the mast section. Depending on the application, Telescopic, HiLo or Triplex designs are available.

- Telescopic suitable for many applications, economical and gives a clear-view through the mast.
- HiLo supplements the Telescopic mast with an additional central full free lift cylinder for high stacking under low ceilings, to utilise the space right up to the roof.
- Triplex for applications with low doorways but high stacking heights to utilise the space right up to the roof.

The nested I-beam mast sections with integral hoist cylinders and in-line rear mounted lift chains, in conjunction with the slim profile of the fork carriage, give excellent visibility. The hydraulic hoses are run in the dead visibility area of the mast sections - with no hose reels - for optimum visibility and wear-free operation, even with attachments.

Moving front axle.

The length of the wheelbase is altered by around 100 mm by means of a centrally located cylinder acting on the front axle. This variable wheelbase gives the following advantages when extended:

- More driving comfort due to fewer rocking movements and greater safety when transporting loads.
- Reliable transfer of the driving force to the floor due to up to 56% greater contact pressure on the rear wheel because of the longer lever arm of the front axle. This is particularly helpful when driving on ramps.
- Saves unnecessary extra weight on the rear wheel by redistribution of weight and a larger radius of action for lower energy consumption from one battery charge.

Benefits of a shorter wheelbase:

- Greater manoeuvrability for better utilisation of storage space and less shunting.

Hydraulic system.

Thanks to the STILL controller, the speed of the pump motor is regulated exactly, according to demand, by the position of the valve lever or the steering wheel. This allows longer use from one battery charge.

Sensitive operation of the hydraulics increases the working safety due to highly accurate lifting. The pump draws the oil from the tank through a filter, so that all hydraulic units are supplied with clean oil. This reduces the wear to a minimum.

The hydraulics themselves also improve energy consumption by:

- The high efficiency of the hydraulic pump even at low speeds (e.g. when steering). Bronze coated wear discs with very low friction properties seal the gears against the housing and guarantee a loss-free oil flow within the pump.
- By replacing the pressure relief type anti-cavitation valve with a load retaining valve, the pump does not have to overcome a pre-set valve preload with a specific hydraulic pressure. For example, when tilting without a load.
- The priority valve is directly connected to the pump so that hydraulic interfaces and hoses are not needed. Leakage is avoided and a safer, cleaner operation guaranteed. The same applies to a pressure relief valve for attachments which are located directly on the valve block.

Driver's compartment.

- The low entry height, large footwell and inclined floor plate with anti-slip lining, ensure fast convenient entry and exit, plus a relaxed leg position when driving.
- The smoothly adjustable steering column with its small steering wheel offers ergonomic adjustment for the driver, and reduced steering movements.
- The pedal layout, like that in a car, can be replaced with a dual pedal arrangement if required, in order to adapt the RX 50 to the personal driving habits of the driver for maximum turnaround of goods.
- The Forward - Neutral - Reverse switch on the valve lever (lift and lower) allows a quick and comfortable change of driving direction without changing the grip, making for fatigue-free operation even over long shifts.
- The heated display with clock, service and battery indicator and error messages, ensures a constant display of the condition of the vehicle even when changing from cold to warm areas of use.
- With 5 selectable driving programmes the driver can change the driving characteristics of the RX 50 at any time to match the application or his own driving preferences. Each programme can be adapted precisely to the application profile in order to achieve an optimum level of economy and turnaround of goods.
- The overhead guard on the RX 50 gives generous headroom even for tall drivers. Innovative design of the guard optimises the allround vision by presenting the slimmest profiles to the driver's line of vision.

Safety.

The RX 50 complies with all applicable EC safety requirements and regulations.

It thus carries the "CE" symbol.

Quality.

All forklift trucks from STILL comply with the ISO 9001 quality standard. They are carefully constructed and manufactured. The materials used are checked to stringent standards.

Service.

The maintenance interval of the RX 50 is 1000 hours or 12 months. These intervals save on maintenance costs, especially in single shift operation where 1000 hours corresponds roughly to the annual number of operating hours.

Quick diagnosis is achieved via a laptop computer. All components requiring maintenance are readily accessible and quick availability of all necessary spares ensures maximum uptime.

Your contact

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www.still.de/RX50

RX 50 1.1 HHe 07/09 TD Subject to technical modifications.

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