RX 50

Technical Data.

Electric Forklift Trucks
RX 50-10 / RX 50-13 / RX 50-15 / RX 50-16.

STILL
Making the right moves.

RX 50 Electric Forklift Trucks.

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 GmbH			Still GmbH			Still Gm		
	1.2	Manufacturer's model designation		RX 50-10			RX 50-13			RX 50-		
	1.3	Power supply – electric, diesel, petrol, gas, mains electric		electric			electric			electr		
	1.4	Type of control – hand, pedestrian, stand-on, rider seated		rider seated			rider seated			rider sea		
	1.5	Carrying capacity/load	Q (kg)	1000			1250			1500		
	1.6	Load centre	c (mm)	500			500			500		
	1.8	Load distance	x (mm)	298			325			325		
	1.9	Wheelbase (Mast Forward/Vertical/Back)	y (mm)	997	1030	1096	1079	1112	1178	1129	1162	
Wheels, tyres	2.1	Weight	kg	2228		2210	2538	2520	2502	2748	2730	
	2.2	Axle loadings laden front	kg	2847		2805	3279	3265	3251	3697	3685	
	2.2.1	Axle loadings laden rear	kg	381		405	509	505	497	551	545	
	2.3	Axle loadings unladen front	kg	1072		1060	1102	1090	1074	1132	1120	
	2.3.1	Axle loadings unladen rear	kg	1156		1150	1436	1430	1424	1616	1610	
Wheels, tyres	3.1	Tyres – rubber (V), superelastic (SE), pneumatic (L), polyurethane (PE)		V		SE	V	SE	L	V	SE	
	3.2	Tyre size – front		16x6x10 1/2		16x6-8	16x6x10 1/2	18x7-8	18x7-8/16 PR	16x7x10 1/2	18x7-	
	3.3	Tyre size – rear		16x6x10 1/2		16x6-8	16x6x10 1/2	18x7-8	18x7-8/16 PR	16x7x10 1/2	18x7-	
	3.5	Wheels – number front (x = drive wheel)		2			2			2		
	3.5.1	Wheels – number rear (x = drive wheel)		1x			1x			1x		
	3.6	Track width – front	b_{10} (mm)	848			835	842	870	853	842	
	3.7	Track width – rear	b_{11} (mm)	0			0			0		
Dimensions	4.1	Tilt angle, mast/fork carriage forwards	degrees	3			3			3		
	4.1.1	Tilt angle, mast/fork carriage backwards	degrees	6			6			6		
	4.2	Closed height	h_1 (mm)	2260			2260			2260		
	4.3	Free lift	h_2 (mm)	150			150			150		
	4.4	Lift height	h_3 (mm)	3430			3430			3430		
	4.5	Height, mast raised	h_4 (mm)	4080			4080			4080		
	4.7	Height to top of overhead guard (cabin)	h_6 (mm)	2065*			2080**			2080		
	4.8	Seat height	h_7 (mm)	920			935			935		
	4.12	Coupling height	h_{10} (mm)	420			435			435		
	4.19	Overall length	l_1 (mm)	2423			2527			2577		
	4.20	Length to front face of forks	l_2 (mm)	1623			1727			1777		
	4.21	Overall width	b_1 (mm)	1006		998	993	996	1043	1037	996	
	4.22	Fork thickness	s (mm)	35			35			35		
	4.22.1	Fork width	e (mm)	80			80			80		
	4.22.2	Fork length	l (mm)	800			800			800		
	4.23	Fork carriage to DIN 15173 – class / form A or B		ISO II B			ISO II B			ISO II		
	4.24	Fork carriage width	b_3 (mm)	980			980			980		
	4.31	Ground clearance beneath mast, laden	m_1 (mm)	90			90			90		
	4.32	Ground clearance at centre of wheelbase	m_2 (mm)	100			100			100		
	4.33	Aisle width for pallets 1000 x 1200 wide	A_{st} (mm)	2955			3058			3108		
	4.34	Aisle width for pallets 800 x 1200 long	A_{st} (mm)	3075			3180			3230		
	4.35	Outer turning radius	W_a (mm)	1325			1403			1453		
	4.36	Inner turning radius	b_{13} (mm)									
Performance	5.1	Speed laden	km/h	11.5			12			12		
	5.1.1	Speed unladen	km/h	12			12.5			12.5		
	5.2	Lift speed laden	m/s	0.32			0.31			0.3		
	5.2.1	Lift speed unladen	m/s	0.52			0.52			0.52		
	5.3	Lowering speed laden	m/s	0.54			0.54			0.54		
	5.3.1	Lowering speed unladen	m/s	0.6			0.6			0.6		
	5.5	Rated drawbar pull laden	N	1650			1400			1280		
	5.5.1	Rated drawbar pull unladen	N	1950			1700			1670		
	5.6	Max. drawbar pull laden	N	2840			3500			3770		
	5.6.1	Max. drawbar pull unladen	N	8200			7500			7500		
	5.7	Gradeability laden	%	6.5			5			4		
	5.7.1	Gradeability unladen	%	11			8.5			8		
	5.8	Max. gradeability laden	%	19			19			16		
	5.8.1	Max. gradeability unladen	%	25			25			25		
	5.9	Acceleration time laden	s	5.3			5.4			5.5		
	5.9.1	Acceleration time unladen	s	4.7			4.8			4.9		
	5.10	Brakes		hydraulic			hydraulic			hydrau		
Motors	6.1	Drive motor hourly capacity	kW	4.5			4.5			4.5		
	6.2	Hoist motor capacity at 15% duty factor	kW	7.8			7.8			7.8		
	6.3	Battery equipment to DIN 43531/35/36 A, B, C, no		DIN 43535 A			DIN 43535 A			DIN 435		
	6.4	Battery voltage	U (V)	24			24			24		
	6.4.1	Battery capacity	K 5 (Ah)	575 (500-625)			805 (600-875)			920 (700-		
	6.5	Battery weight	kg	445			600			676		
	6.6	Energy consumption according to VDI cycle	kWh/h									
Other	8.1	Drive control		Stilltronic-Impulse			Stilltronic-Impulse			Stilltronic-I		
	8.2	Operating pressure for attachments	bar	190			190			190		
	8.3	Oil flow for attachments	l/min									
	8.4	Average noise peak at operator's ears	dB (A)									
	8.5	Trailer coupling, type/DIN		pin			pin			pin		

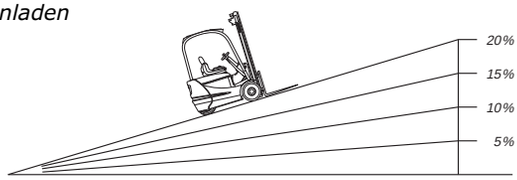
* Overhead guard height above 1965 mm available ** Overhead guard height above 198

mbH		Still GmbH		
15		RX 50-16		
ic		electric		
ated		rider seated		
		1600		
		500		
		330		
	1228	1129	1162	1228
	2702	2798	2780	2762
	3673	3878	3875	3854
	539	520	505	508
	1108	1142	1130	1118
	1604	1656	1650	1644
	L	V	SE	L
-8	18x7-8/16 PR	16x7x10 1/2	18x7-8	18x7-8/16 PR
-8	18x7-8/16 PR	16x7x10 1/2	18x7-8	18x7-8/16 PR
		2		
		1x		
	870	853	842	870
		0		
		3		
		6		
		2260		
		150		
		3430		
		4080		
**		2080**		
		935		
		435		
		2582		
		1782		
	1043	1037	996	1043
		40		
		80		
		800		
B		ISO II B		
		980		
		90		
		100		
		3117		
		3239		
		1458		
		12		
		12.5		
		0.3		
		0.52		
		0.54		
		0.6		
		1240		
		1670		
		3470		
		7500		
		4		
		7.5		
		15		
		25		
		5.6		
		5		
lic		hydraulic		
		4.5		
		7.8		
35 A		DIN 43535 A		
		24		
1000)		920 (700-1000)		
		676		
mpulse		Stilltronic-Impulse		
		190		
		pin		

0 mm available

Gradients (dry rough concrete surface – coefficient of friction = 0.8, SE tyres). Permissible travel distance per hour in metres.

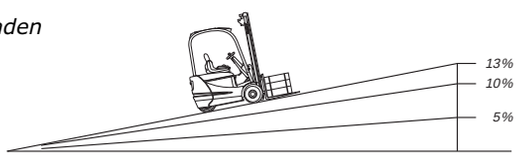
unladen



	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.

laden



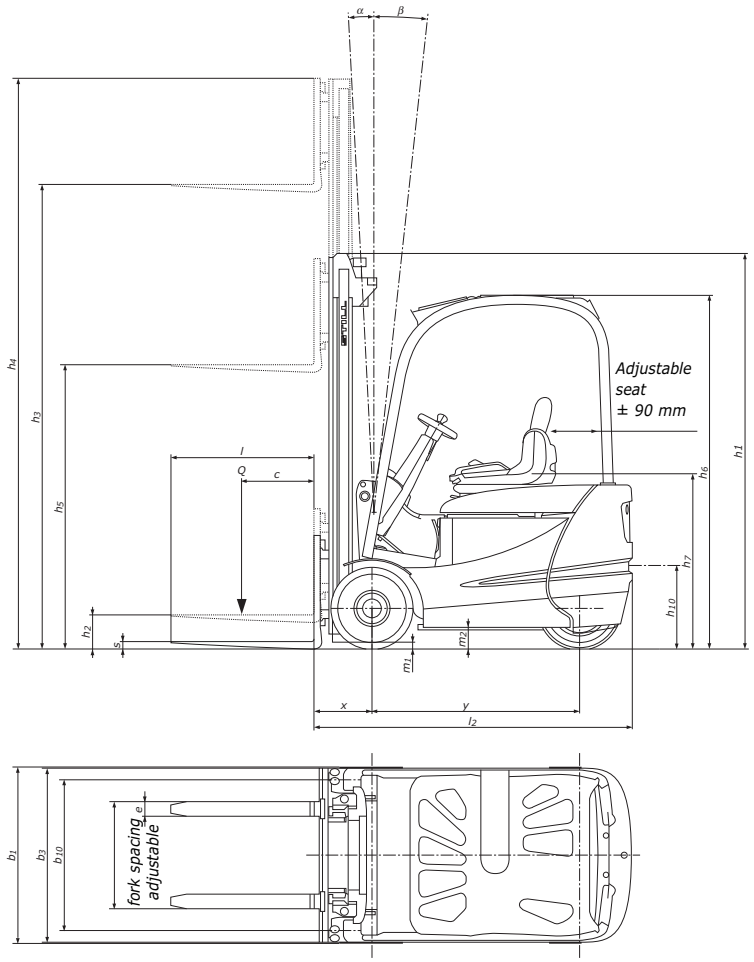
	RX 50-10	RX 50-13	RX 50-15	RX 50-16
13%	710 m	420 m	270 m	250 m
10%	1490 m	970 m	570 m	510 m
5%	6930 m	3900 m	2600 m	2360 m

Mast Types.

			Telescopic-Mast				
	Lift Height	h_3	2630-3430	3530-4430	4530-4830	4930-5430	277
	Closed Height	h_1	1860-2260	2310-2760	2810-2960	3010-3260	186
	Free Lift	h_2	150				123
	Overall Height Raised	h_4	3280-4080	4180-5080	5180-5480	5580-6080	342
RX 50-10	Angle of Tilt	α / β	3/6				
	Wheelbase*	y	997/1030/1096				
	Overall Width	b_1 SE	998				
		V	1006				
	Load Distance	x	298				
	Aisle Width Pallet 1000 x 1200 accross / 800 x 1200 long	A_{st}	2955/3075				
RX 50-13	Angle of Tilt	α / β	3/6				
	Wheelbase*	y	1079/1112/1178				
	Overall Width	b_1 SE	996				
		V	993				
		L	1043		1205		
	Load Distance	x	325				
	Aisle Width Pallet 1000 x 1200 accross / 800 x 1200 long	A_{st}	3058/3180				
RX 50-15	Angle of Tilt	α / β	3/6				
	Wheelbase*	y	1129/1162/1228				
	Overall Width	b_1 SE	996				
		V	1037				
		L	1043		1205		
	Load Distance	x	325				
	Aisle Width Pallet 1000 x 1200 accross / 800 x 1200 long	A_{st}	3108/3230				
RX 50-16	Angle of Tilt	α / β	3/6				
	Wheelbase*	y	1129/1162/1228				
	Overall Width	b_1 SE	996				
		V	1037				
		L	1043		1205		
	Load Distance	x	330				
	Aisle Width Pallet 1000 x 1200 accross / 800 x 1200 long	A_{st}	3117/3239				

* = Mast Forward/Vertical/Backward

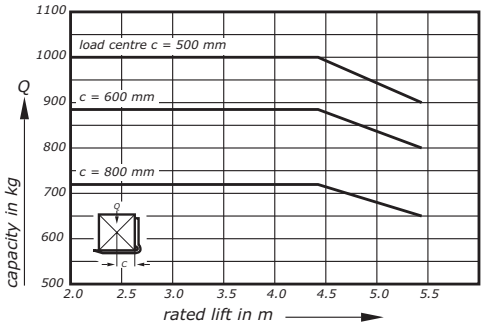
The mode



	Hilo-Mast		Triplex-Mast					Triplex-Mast, Narrow				
30-5430	2775-3475	3575-4075	4020-4470	4620-4920	5070-5520	5620-5920	6070-6370	4020-4320	4470-4770	4920-5220	5370-5770	5920-6370
10-3260	1860-2210	2260-2510	1860-2010	2060-2160	2210-2360	2460-2560	2610-2710	1860-1960	2010-2110	2260-2260	2310-2510	2560-2710
	1230-1580	1630-1880	1230-1380	1430-1530	1580-1730	1830-1930	1980-2080	1230-1330	1380-1480	1530-1630	1680-1880	1930-2080
30-6080	3425-4125	4225-4725	4670-5120	5270-5570	5720-6170	6270-6570	6720-7020	4670-4970	5120-5420	5570-5870	6020-6420	6570-7020
	3/6		3/5					–				
	997/1030/1096		1017/1050/1105					–				
	998		1062					–				
	1006		1098					–				
	298		298					–				
	2960/3080		2980/3100					–				
	3/6		3/5					3/5				
	1079/1112/1178		1099/1132/1187					1099/1132/1187				
	996		1186					1073				
	993		1127					1005				
	1043		1205					–				
	325		325					325				
	3058/3180		3082/3199					3082/3199				
	3/6		3/5					3/5		3/4		
	1129/1162/1228		1149/1182/1237					1149/1182/1237		1149/1182/1225		
	996		1186					1073				
	1037		1139					1049				
	1043		1205					–				
	325		325					325				
	3108/3230		3128/3249					3128/3249				
	3/6		3/5					3/5		3/4		
	1129/1162/1228		1149/1182/1237					1149/1182/1237		1149/1182/1225		
	996		1186					1073				
	1037		1139					1049				
	1043		1205					–				
	330		330					330				
	3117/3239		3137/3259					3137/3259				

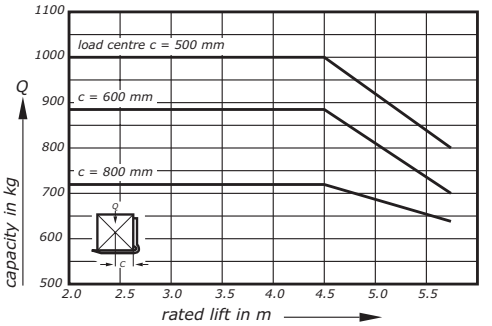
The models depicted in this brochure may contain special parts or attachments which are not supplied as standard.

Capacities RX 50-10 Tele/Hilo mast



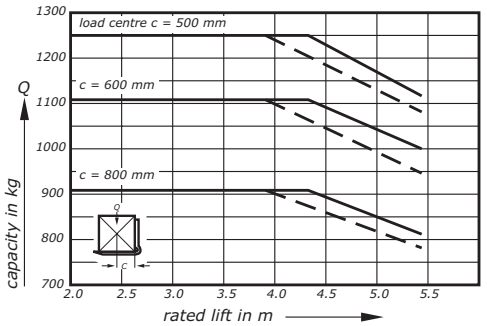
Superelastic/Solid

Capacities RX 50-10 Triplex mast



Superelastic/Solid

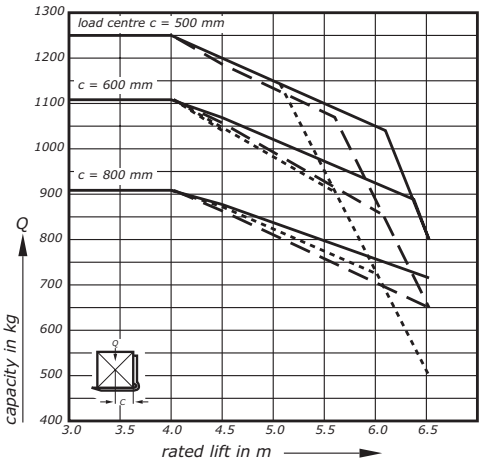
Capacities RX 50-13 Tele/Hilo mast



Superelastic/Solid

Pneumatic

Capacities RX 50-13 Triplex mast

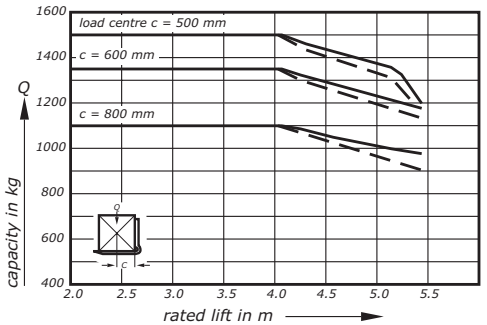


Superelastic/Solid

Pneumatic

Triplex, narrow; SE

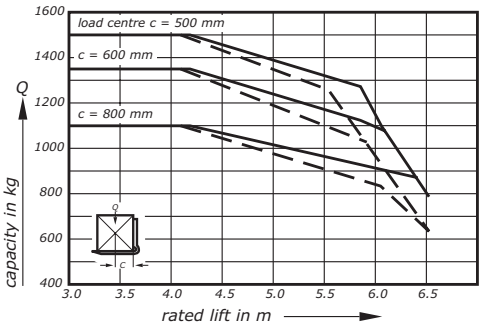
Capacities RX 50-15 Tele/Hilo mast



Superelastic/Solid

Pneumatic

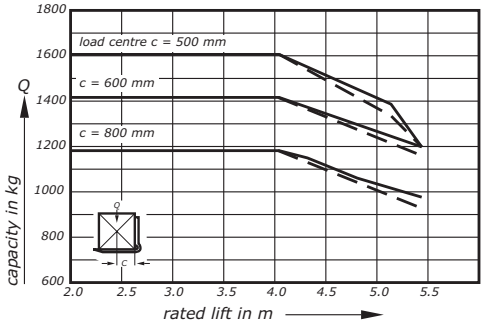
Capacities RX 50-15 Triplex mast



Superelastic/Solid

Pneumatic

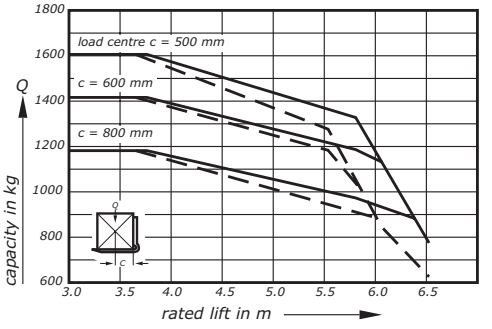
Capacities RX 50-16 Tele/Hilo mast



Superelastic/Solid

Pneumatic

Capacities RX 50-16 Triplex mast



Superelastic/Solid

Pneumatic

Technical Data
Electric Forklift Trucks
RX 50-10 / RX 50-13 / RX 50-15 / RX 50-16.

Drive.

The 24 volt 3-phase drive motor acts directly on the steered rear wheel of the RX 50 and ensures a 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. This saves maintenance costs.

The drive motor acts directly on the rear steered wheel where there is a long turning radius thus 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 increase 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 even that the use of a small battery might be possible.

Wear free electrical braking also leads to 90 % less wear on the brake linings and 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 of 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.

Adjustment of the travel speed depending on the steering angle increases driving safety and protects the load.

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 due to this 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, the 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 * beam mast sections with the integral hoist cylinders and in-line rear mounted lift chains, in conjunction with the slim profile of the fork carriage, give the best clear 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 particularly facilitates 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 the 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 the 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.
- The replacement of the pressure relief type anti-cavitation valve by a load retaining valve so that the pump does not have to overcome a pre-set valve pre-load with a specific hydraulic pressure. e.g. 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.

Drivers compartment.

- The low entry height, large foot well 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 arrangement, 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 a 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 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 appli-

cation 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 all-round vision by presenting the slimmest profiles to the drivers 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 the 1000 hours corresponds roughly the 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.

BG – RX 50-10/16 1.8 5/03 td Subject to technical modifications.

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