



Attractive looking and compact: the RX 20 in orange silver livery with black high-light elements

All photos: VerkehrsRundschau/Anja Kiewitt

In brief

The Still RX 20-16/P featuring the new 'Easy View' mast rated 1.4 (very good) in the forklift test. The electric forklift scores highly in terms of visibility and safety, allied to speedy handling, such as when loading and unloading trucks.

Fast and agile pallet mover

The new 'Easy View' mast design marks a further advance in Still's ongoing development process. Our test demonstrates the boost provided by the patented new feature to the safety and performance of RX 20 lithium-ion battery powered electric forklifts.

The mast is key - whether on-board a sailing ship or on an industrial truck. But instead of a 'stiff breeze', a forklift truck needs a suitable electric drive unit to make it climate-friendly too. And because forklift drivers need to be focused on the load rather than looking at the mast, Still searched for a new solution. The top-selling RX 20 underwent a complete redesign as recently as 2018. Less than a year later, the Hamburg-based company is now upgrading with a unique mast variant. The new mast is somewhat reminiscent of Still's legendary 'cylinder-only'

mast - with no profiles - from the 'RXX' concept study in the late 1990s. In contrast to that design, both mast profiles on the 'Easy View' are placed very close together. The result is a robust construction that, despite being only 1.60 metres tall, allows loads of up to two tonnes to be stacked to a height of almost 2.14 metres. We tested the 2019 version of the RX 20-16P featuring the new 'Easy View' mast. The four-wheel truck is equipped with a 48 Volt lithium-ion battery. The chassis is of dual design, allowing also for the use of lead-acid batteries so that exist-

In detail: Still RX 20-16P/Li-Ion



The test vehicle

The Still RX 20-16P/Li-Ion four-wheel electric front-end forklift truck has a lifting capacity of 1.6 tonnes, with a 500 millimetre load centre. It is powered by a 48 Volt 625 Ah lithium-ion battery. The vehicle is equipped with the new 'Easy View' mast and Superelastic tyres.

The performance test

Loading and unloading a semi-trailer truck with 32 Europallets*

Time taken:	29:12 min.
Energy consumed:	2.09 kW
Energy costs:**	EUR 0.25

in one hour

Handling rate:	130
Energy consumed:	4.30 kWh
Energy costs:	EUR 0.52

In an eight-hour shift

Handling rate:	1040
Energy consumption:	34.40 kW
Energy costs:	EUR 4.16

VDI cycle***

Energy consumption:	3.6 kWh/h
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How the test works

The forklift test consists of two parts. Three test drivers evaluate the forklift's user-friendliness based on a rating system. 17 criteria relating to handling performance are tested. The dynamic test on the VerkehrsRundschau circuit provides information on energy consumption and performance capability. For this purpose, we simulate loading and unloading of a semi-trailer truck with 32 Europallets. An 800 kilogram test weight is used. Measuring instruments on the forklift record the time taken and energy consumed.

*Handling = 64 pallets, running in Power mode
** Electricity price for industrial customers: EUR 0.12 per kilowatt/hour; source: German Federal Statistical Office
*** According to the manufacturer

VR plus Find more on the subject at **#Forklift-test**
www.verkehrsrundschau-plus.de/hashtag

Technical specifications



Registration number

Manufacturer and model: Still RX 20-16P/Li-Ion;
Drive: electric. Load capacity: 1.6 t. Load centre:
500 mm. Unladen weight including battery:
3018 kg

Wheels/chassis

Tyres: Superelastic. Number of wheels front/
rear: 2/2; front wheels driven

Dimensions

Vehicle height: 2035 mm. Height with mast
retracted/extended: 2160/3742 mm. Free lift:
150 mm. Lift: 3180 mm. Working width, pallet
cross-ways/length-ways: 3362/3487 mm

Driving performance

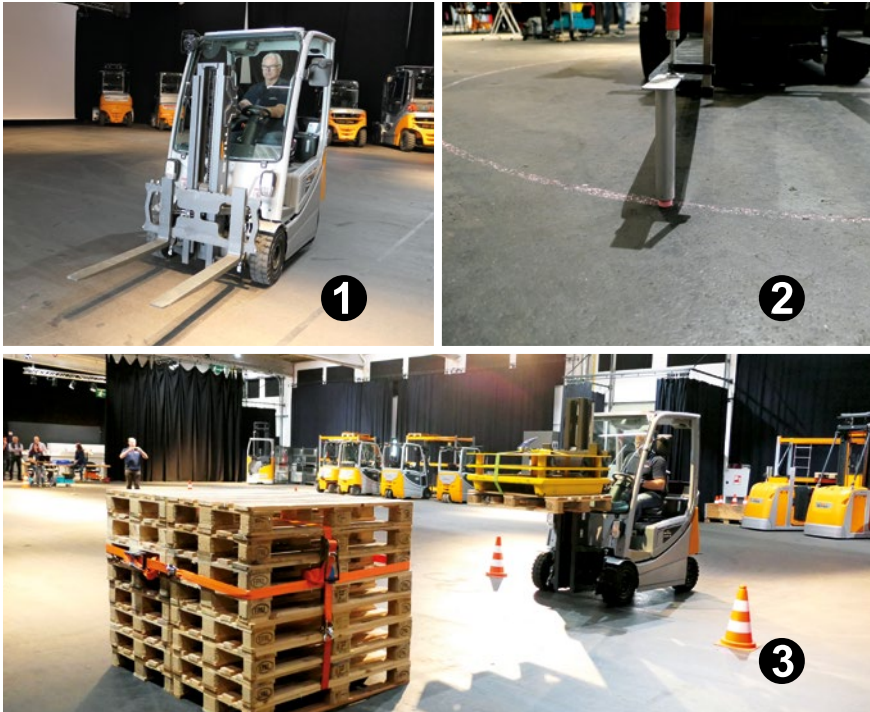
Travel speed with/without load: 20/20 km/h. Lift
speed with/without load: 0.53/0.75 m/s. Lower-
ing speed with/without load: 0.51/0.50 m/s

Motor

Traction motor power: 2x6.5 kW. Lift motor
power: 11 kW. Battery: DIN 43 531 A (B). Battery
voltage: 48 V. Battery capacity: 625 Ah. Battery
weight: 855 kg

Additional features

Working pressure for mounted equipment:
240 bar. Oil flow rate for mounted equipment:
26.5 l/min. Sound pressure level at driver's ear:
<66 dB(A)



- 1. Patented new feature: Both profiles on the 'Easy View' mast are placed very close together
- 2. An all-round success: The chalk circle on the simulated 360 degree circuit is kept perfectly
- 3. New test record: The ultimate result was a handling rate of 130 pallets per hour

ing battery stocks can still be used. The change-over is made by means of a hand pallet truck on the side. With the lithium-ion battery that is of course not necessary. Drive power is provided by two encapsulated, maintenance-free 6.5 kilowatt (kW) three-phase traction motors featuring active cooling and a new generation of converters that are connected directly to the motors without any power loss. The new RX 20 generation has been slimmed down by 171 millimetres (mm). Our test truck has a combination swing axle which enables it to operate even in narrow aisles. Both rear wheels can be swivelled 90 degrees. Access is non-slip, stepping directly onto the platform. The driver can grab onto a large metal handle on the A-pillar for assistance. The designers have lowered the RX 20 a little, so eliminating the need for an additional step. We measured an entry

height of 55 centimetres from floor level. Our test drivers rated that as borderline. But the lowering of the platform also has a positive aspect: the headroom below the cab roof is increased. And with a height of 2035 mm above the cab roof, the truck is container-compatible. **Spacious footwell** Driver access is unimpeded. The steering column is adjustable, leaving sufficient legroom, and the foot space is generous for a truck of this category. A minor downside is the differing height of the pedals. The right foot occasionally gets caught when shifting from the accelerator pedal to the brake. After getting into the comfortable Grammer seat, the all-round visibility is excellent. When driving - including with a load - there's a completely unobstructed view past and over the mast, especially to see vehicles or pedestrians crossing from the



- 4. The colour display allows the driver to interact with the vehicle control system
- 5. When driving - including with a load - the view past and over the mast is unobstructed
- 6. Not left alone at the wheel: the 'Curve Speed Control' assistance feature aids cornering
- 7. Borderline: 55 centimetre entry height
- 8. The right foot occasionally gets caught when shifting from the accelerator pedal to the brake

The test drivers' verdict

Dieter (60), 37 years' forklift experience, currently working in food logistics



Verkehrsrundschau/Serge Voigt

"With the new 'Easy View' mast, I can look past the load on the left and right and over the mast onto the route ahead without straining. That's really unique in this form!"

Uwe (43), 20 years' forklift experience, currently working in the building materials industry



Verkehrsrundschau/Serge Voigt

"Negotiating the test circuit at 20 km/h is like 'flying a fighter jet'. Yet the RX 20 is relaxed and safe to drive. The accelerator and brake pedals should be at the same height though."

Heinz (53), 25 years' forklift experience, currently working in the building materials industry



Verkehrsrundschau/Serge Voigt

"The electric forklift responds to all driver input - when driving along, lifting and accelerating - precisely and spontaneously. I find the entry height not so comfortable."

Summary test results			
The VerkehrsRundschau ratings			
Entry/exit1.9 (Good)	Armrest1.3 (Very good)	Direction change2.1 (Good)	
<div><div></div>Non-slip</div> <div><div></div>Grab handle</div> <div><div></div>High entry</div>	<div><div></div>Infinitely variable</div> <div><div></div>Wide horizontal adjustment range</div>	<div><div></div>On steering wheel and armrest</div> <div><div></div>Reach-through between mini-levers</div> <div><div></div>Not reachable with short fingers</div>	
Workplace1.5 (Good)	Display1.2 (Very good)	Working performance1.4 (Very good)	
<div><div></div>Steering column adjustable in 3 stages</div> <div><div></div>Plenty of foot space</div>	<div><div></div>Easy Control</div> <div><div></div>Performance and safety features at a glance</div>	<div><div></div>Dynamic reversing</div> <div><div></div>Customisable driving programs</div> <div><div></div>Adaptable handling characteristics</div>	
Visibility1.2 (Very good)	Secondary switches1.5 (Good)	Quality/finish1.6 (Good)	
<div><div></div>EASY View mast</div> <div><div></div>Armoured glass roof with no struts</div> <div><div></div>Slim pillars</div>	<div><div></div>On display</div> <div><div></div>Emergency stop placement</div>	<div><div></div>No rattling</div> <div><div></div>Precise gaps</div> <div><div></div>High metal content</div>	
Fork control1.3 (Very good)	Storage1.2 (Very good)	Energy system1.2 (Very good)	
<div><div></div>Mini-levers and armrest</div> <div><div></div>Sensitive response</div>	<div><div></div>Smartphone holder</div> <div><div></div>Cupholder</div> <div><div></div>Folding hatch on rear</div>	<div><div></div>Li-ion battery exchangeable 1:1</div> <div><div></div>Lead-acid batteries also possible</div> <div><div></div>Charge indicator on battery</div>	
Steering/steering wheel1.4 (Very good)	Safety features1.6 (Good)	Maintenance1.2 (Very good)	
<div><div></div>Steering wheels swivel 90 degrees</div> <div><div></div>Tight turning circle</div> <div><div></div>Combination axle</div>	<div><div></div>Curve Speed Control</div> <div><div></div>Intelligent seat belt monitor</div> <div><div></div>Safety Light 4Plus</div>	<div><div></div>No battery maintenance</div> <div><div></div>Service points easy to reach</div>	
Driver's seat1.5 (Good)	Standard equipment1.5 (Good)	Overall score: 1.4 (Very good)	
<div><div></div>Lumbar support</div> <div><div></div>Easily adjustable</div> <div><div></div>Smooth leatherette cover</div>	<div><div></div>Extensive equipment features</div>		

left or right ahead. The upward view through the panoramic roof made of armoured glass is uninterrupted by any support struts. When reversing, the driver can hold on to a grab handle on the slim B-pillar.

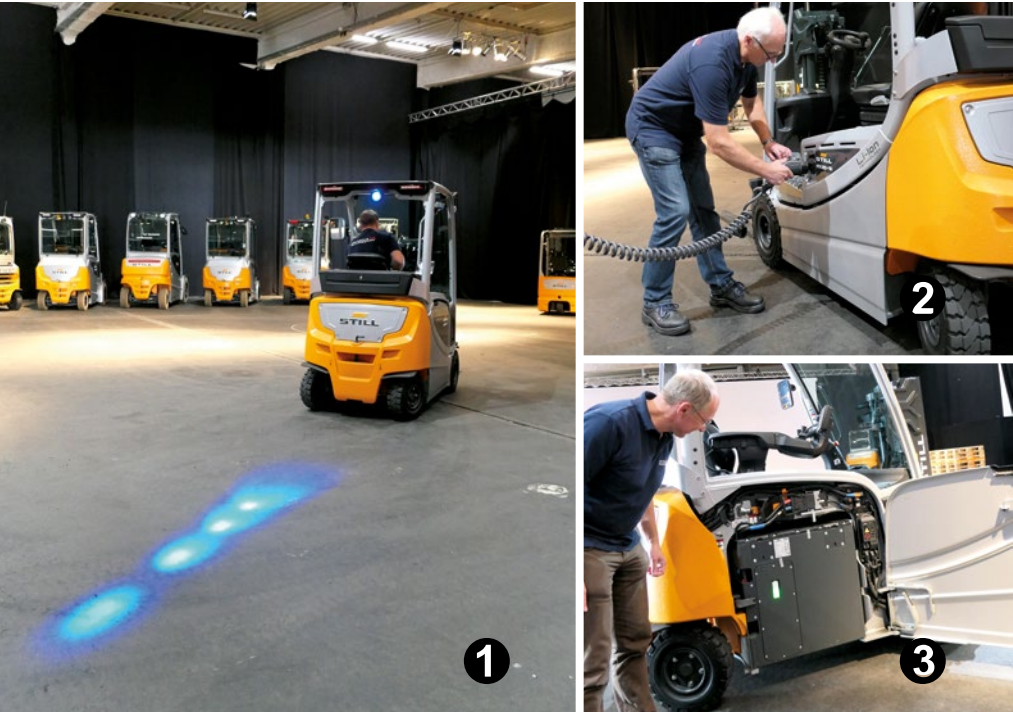
Colour display doesn't swivel

A particular highlight is the 'Easy Control' display and operating unit on the armrest. The fully graphical colour display of the on-board computer allows the driver to interact with the vehicle control system and set a variety of driving programs and lift speeds. The display is fixed in place. In our opinion, it would be even more user-friendly if the display could be swivelled. The display indicates the travel speed, mast tilt angle, battery state of charge and power consumption, as well as the direction of travel. It also indicates the truck's



The forklift negotiates ramps with up to 20% inclines carrying maximum load

All photos: VerkehrsRundschau/Anja Kiewitt



1. 'Still Safety Light': The warning light enhances working safety in areas where visibility is poor
2. The RX 20 can be charged anywhere thanks to the on-board charger and the included cable
3. Not applicable with Li-ion battery: The battery is changed by means of a hand pallet truck on the side

stability status and speed reduction when the forks are raised. The driver can select a horizontal fork position at the touch of a button. The driving mode can be customised, including the facility to combine each basic mode with three different travel and lift speeds. For our first test cycle, we selected an energy-saving 'Blue Q' setting, combined with moderate travel and lift speeds at level 2. On the second run, we set the RX 20 to sprint mode, combined with level 3 travel and lift speeds. Even in 'Blue Q' mode, the electric forklift exhibits excellent handling characteristics and speedy lap times. It responds to all commands precisely and promptly. The driver assistance systems ensure safe, stress-free cornering. In energy-saving mode, the RX 20 achieves an outstanding handling rate of 116 pallets per hour. We measured an energy consumption of 3.42 kW/h. Sprint mode delivers a top-class electric power experience. From the off, our drivers achieved record lap times previously unseen from any other electric forklift. The ultimate result was a remarkable handling rate of 130 pallets per hour, attained by the RX 20 draw-

ing 4.30 kW/h of power from the lithium-ion battery.

Safe even with a hot rear tyre

The extreme demands of cornering with a load brought the outer rear tyre to its stress limit however. At the end of the test period, the rubber was 'hot', and there was a noticeable loss of cornering stability, but this did not pose a safety risk because the 'Curve Speed Control' assistance function adjusted the driving speed on bends to the steering angle, thereby defusing the situation. And unlike on our cordoned-off test circuit, the vehicle will rarely be pushed to its performance limits in practice. Nevertheless, makers of forklift trucks with internal combustion engines should be warned: Apart from anything else, the lithium-ion battery electric model is not only more climate-friendly, but need fear no comparison in terms of availability either. Fairly short charging during work breaks allows for three-shift operation. The RX 20 has an on-board charger, and comes with a charging cable so that it can be recharged anywhere from a suitable power outlet. That can of course be done quicker from the stationary charger with

even higher charging current. The test vehicle was also equipped with all around 'Blue Spot' LED safety lighting, an electro-mechanical service brake, and a ramp function. A USB port for smartphone connection, an on-board radio with a hands-free unit and storage facilities for the driver's tools and equipment create a user-friendly cab environment.

'Very good' with no serious flaws

Conclusion: The RX 20 featuring the new 'Easy View' mast impressively demonstrated that an electric forklift can score highly in terms of visibility and safety while achieving speedy handling, such as when loading and unloading trucks. Particularly noteworthy features are the good all-round visibility thanks to the new mast design and the 'Easy Control' display and operating unit. We found no serious flaws in the vehicle. Our experts gave the RX 20-16/P a score of 1.4 ('Very good').

Walter Dorsch, forklift tester



"A highlight feature is the new mast design"

WALTER DORSCH, an industrial truck expert of many years' standing, tests forklifts for VR