



About us

Nichiyu is a pioneering developer of electric forklifts in Japan. Since introducing the country's first electric forklift in 1937, Nichiyu has continued to introduce a variety of innovative electric forklift solutions. We take pride in our ability to provide customer-focused products and exceptional service.

Committed to comprehensive service

We maintain highly trained service staff in every country in which we sell our products. Should you require regular periodic maintenance or emergency repair, simply contact us for fast and efficient on-site service. We take pride in our commitment to first-rate support and unmatched customer service.

All specifications have been determined according to manufacturer's terms and conditions. Specifications are subject to change without notice in the interests of product improvement.



ELECTRIC FORKLIFT **SIT-ON REACH TRUCKS** FBRF 14/16/20



ELECTRIC FORKLIFT SIT-ON REACH TRUCK FBRF Series

SUPERIOR • INNOVATION

Reach trucks must meet three basic criteria:
fast travel, high lift capability and **compact design**.
The new **FBRF Series** clearly excels at all three.

Excellent Standard Features

The Multifunctional Centralized Control System for AC Control

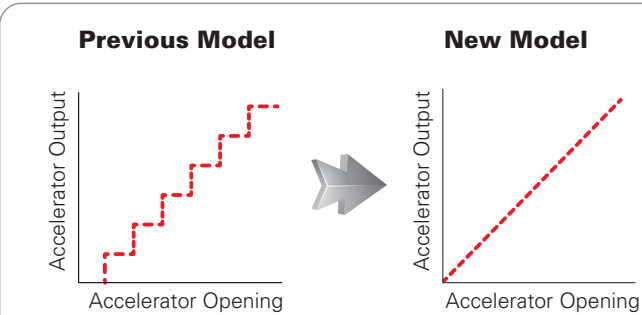
SICOS-AC represents the ongoing evolution of the groundbreaking SICOS control system. It features a new type of controller tuned for full compatibility with AC systems and exhibits more powerful and more advanced capabilities. By integrating the travel, hydraulic, and electric power steering functions, the system's advanced intelligence optimizes the operator's interaction with the forklift.



Superior Drive Performance

Powerful Acceleration for Increased Work Efficiency

Our unique SICOS-AC system provides optimal control of the FBRF's powerful travel and hydraulic AC motors. The result is highly efficient driving, lifting and turning.



This graph compares the acceleration time and control capabilities of a superseded model and a new model.

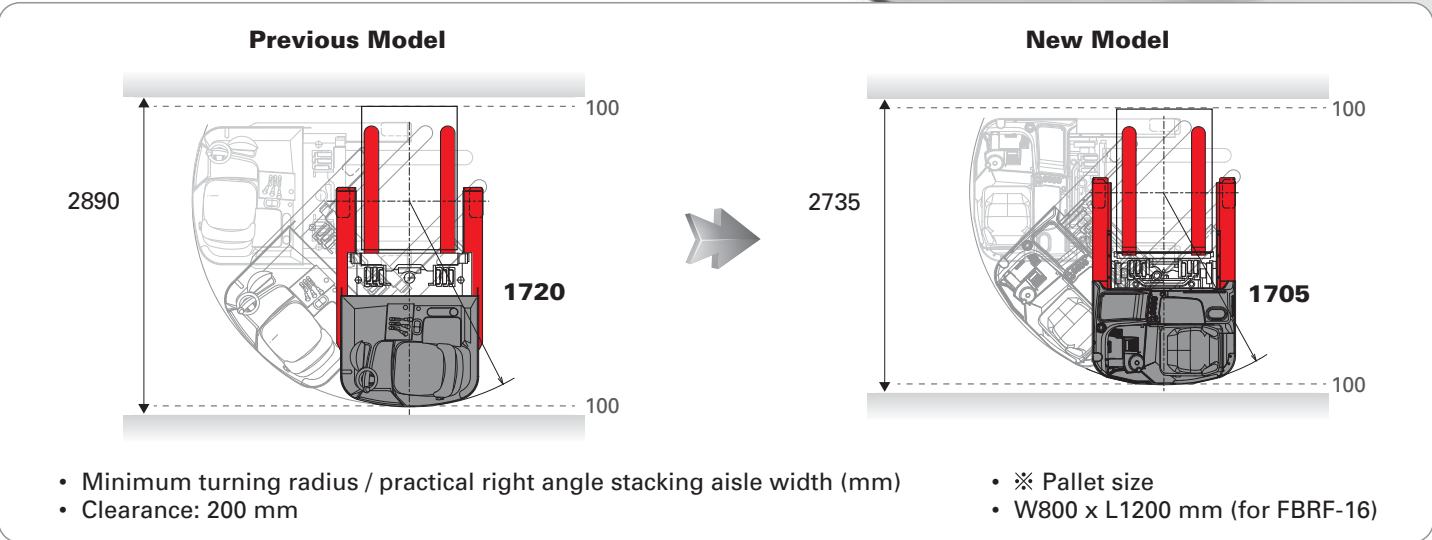


Functional Tight Turning Ability

Excellent Maneuverability for Narrow Spaces

By completely redesigning the frame, we have reduced the minimum turning radius and right angle stacking aisle width. As a joint result with newly adopted 360° endless steering, we now lead the industry in space efficiency.

At the same time, we have created a more spacious and comfortable operating compartment.



Dependable Stability

Smooth, Powerful Lifting

We have re-designed chassis and increased mast rigidity to ensure excellent stability even during high lifts. The result is stable load handling at up to seven-meter heights without capacity reduction.*

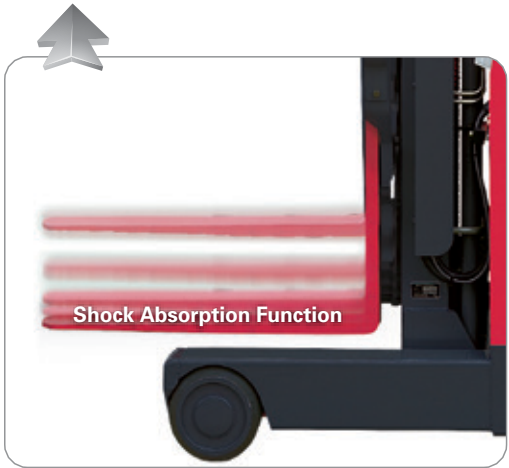
The tiltable integral sideshifter, provided as standard equipment, improves the efficiency of high loading work.

*when equipped with large batteries

Improved Visibility

For Safer, Easier Operation

We have improved the operator's forward field of view by mounting the free lift cylinder diagonally and off-center. What's more, we've carefully designed the overhead guard to avoid blocking the operator's overhead view. These innovations ensure significantly increased work efficiency.



Shock Absorption Mast and Soft Landing Mechanism

A shock absorption function for the mast relieves any shock occurring from friction while lifting. The speed at which the forks are lowered is reduced just before the forks reach the ground, eliminating any shock. These functions prevent the loads from damage by vibration.

Advanced Steering and Multi-display

Smooth, Powerful Lifting

Steer-by-wire with 360° endless steering makes switch back unnecessary. And our speed-sensitive electric power steering (EPS) is easier than ever.

What's more, machine status information is put up on the multi-display mounted on steering panel for real-time.



The Easy-to-Read Display

- Traveling speed
- Battery discharge status
- Current time
- Operating hours



Driving Mode Setting

To accommodate site conditions and the operator's experience level, the operator can set the maximum speed and acceleration feeling on the display.

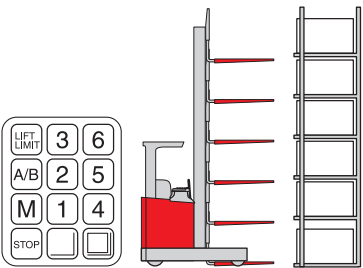


Wheel Indicator

The wheel indicator on the display instantly shows the direction of truck movement.

Self-diagnosis Function

SICOS-ACz diagnoses any malfunctions and displays the results with graphics.



AOS Semi-auto Stacking System

Once you have entered the heights of your racks into the system memory, the AOS semi-auto stacking system raises the forks to that height at the touch of a button.

This feature is a great advantage for loading/unloading your most commonly used racks as well as high racks that are difficult to see.*

* Operator must visually confirm fork position before loading/unloading.

Optional

SUPERIOR • MANAGEMENT

Comfortable Operation for Enhanced Ease-of-use

Totally Redesigned Operating Compartment

Our completely redesigned operating compartment features several ergonomic innovations. The tilt-mounted fingertip levers and large armrests greatly reduce arm fatigue.

The operator can finely adjust the both of steering panel position and seat position. We've included these advanced features as standard to ensure maximum comfort.

Neutral Safety Feature

Preventing Accidents Caused by Misoperation

The Neutral Safety Feature prevents the truck from moving suddenly if the keyswitch is turned on while the accelerator is depressed or during operation of the hydraulic lever.

For preventing accidents caused by misoperation, it issues a warning display and buzzer.

Operation Interlock System (OIS)

If the operator is not seated correctly for more than two seconds, traveling and hydraulic operations are interlocked.

Fully Opening Drive Unit Cover

The drive unit cover under the operator's seat can be fully opened, providing more convenient access and easier maintenance.

Battery Forward Pull-out System

Thanks to our convenient mast reach-out feature, the battery can be pulled out toward the front. This greatly simplifies battery refilling and monitoring of battery electrolyte levels. It also eliminates the need for a battery table.

*To accommodate customers who frequently change batteries, the side roll-out type is also available.



Active Safety and Easy Maintenance

Multiple features for operator safety.

Major improvements to everyday usability.

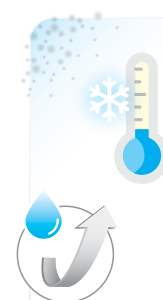
And innovations that make Nichiyu trucks a reliable work partner.

Travel-speed-sensitive Lift Speed Control

This innovation automatically slows lift speed and rotation when travel exceeds a set speed. It's an advanced safety feature that helps to prevent accidents.

Automatic Power-off

To prevent wasteful power consumption, the power is automatically shut off when the truck is left idle for 15 minutes.



Cold Storage Applications

These water-resistant, moisture-resistant and rust resistant trucks are designed to operate at the low temperatures typically found in industrial freezers.

CS class: -20°C continuous exposure**
-35°C intermittent exposure***

FCS class: -35°C continuous exposure**
-55°C intermittent exposure***

**60-minute maximum operation time
***30-minute maximum operation time

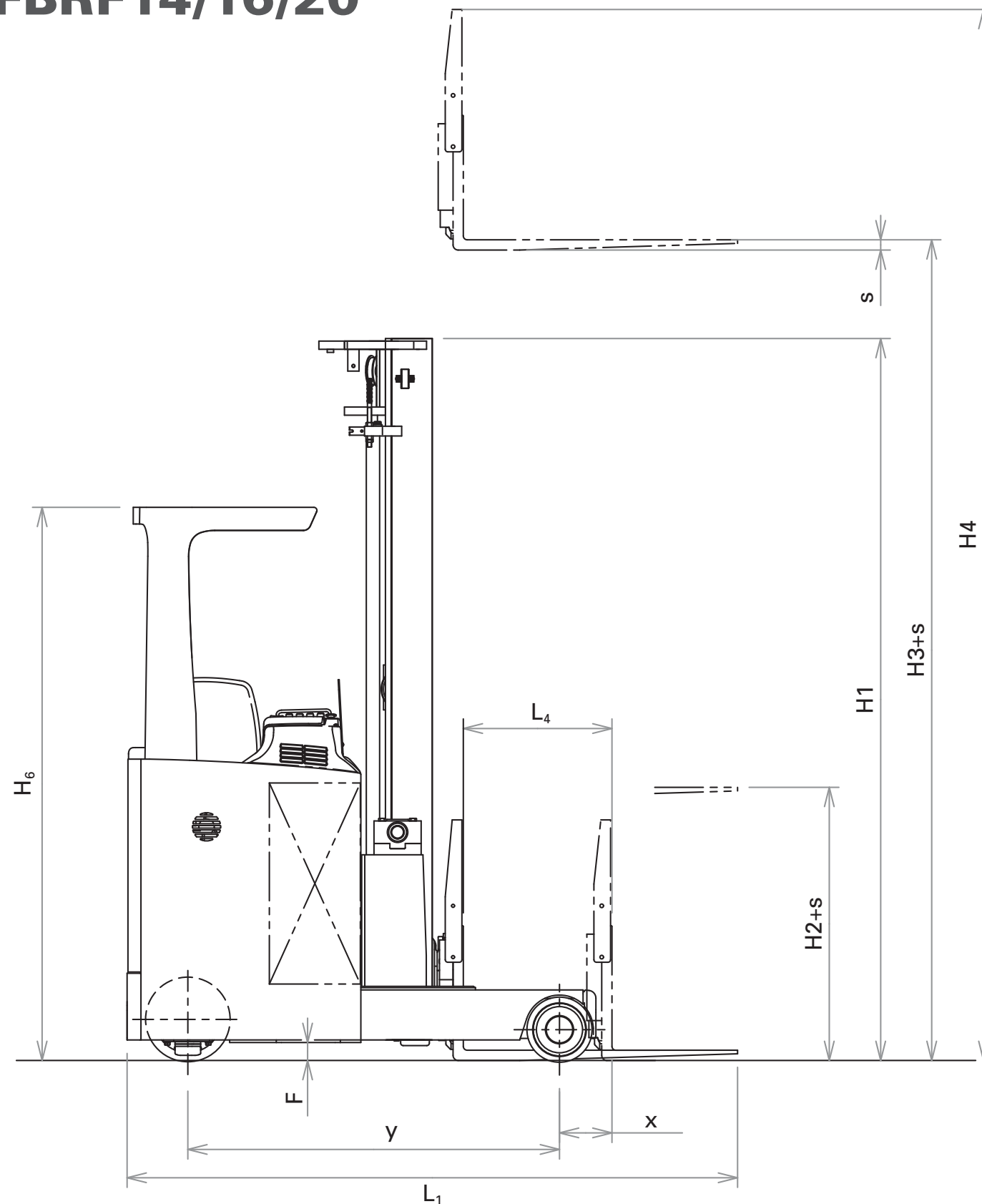
STANDARD SPECIFICATIONS							
Type	Item		Summary	Unit	NICHYU		
					FBRF14	FBRF16	FBRF20
	1 Model				1400	1600	2000
	2 Rated capacity		with Integral sideshifter	Q kg	1400	1600	2000
	3 Load center			C mm	600	600	600
Dimensions	4 Motor type				AC	AC	AC
	5 Operator type		Stand-on / Seated		Seated	Seated	Seated
	6 Lift height		H ₃ +s	mm	6000	6000	6000
	7 Free lift		H ₂ +s	mm	1765	1765	1775
	8 Tilt angle <Fork>		Downward / Upward	deg.	2 / 5	2 / 5	2 / 5
	9		Finger bar		Hook type	Hook type	Hook type
	10 Fork		Dimensions (L / W / T) l/b/s	mm	1070 / 100 / 35	1070 / 122 / 40	1070 / 122 / 40
	11		Spread (Max / Min) B ₅	mm	715 / 200	737 / 292	737 / 292
	12		OA. length L ₁	mm	2280	2280	2360
	13 Length		Frame L ₇	mm	1730	1830	1890
Performance	14		to Fork face L ₂	mm	1210	1210	1290
	15 Reach stroke		L ₄	mm	555	655	625
	16		OA. width B	mm	1270	1270	1334
	17 Width		Between legs B ₄	mm	932	932	915
	18		Frame B ₂	mm	1270	1270	1270
	19		Leg H ₈	mm	275	275	291
	20 Height		Mast lowered H ₁	mm	2665	2665	2675
	21		Mast extended H ₄	mm	6900	6900	6900
	22		Overhead guard H ₆	mm	2160	2160	2190
	23 Overhang		Reach out X	mm	180	180	180
Mass	24 Min. turning radius*1)		Wa	mm	1610	1705	1755
	25 Min. 90° turning aisle*1)		W800 x L1200 Pallet	mm	1825	1870	1920
			W1200 x L1200 Pallet	mm	1825	1870	1920
	26 Min. 90° stacking aisle*1)		W800 x L1200 Pallet Ast	mm	2520	2535	2610
			W1200 x L1200 Pallet Ast	mm	2630	2645	2720
	27 Travel speed		Laden / Unladen	km/h	12 / 12	12 / 12	12 / 12
	28 Lifting speed		Laden / Unladen	mm/s	370 / 560	370 / 560	300 / 460
	29 Lowering speed		Laden / Unladen	mm/s	500 / 400	500 / 400	500 / 400
	30 Reach speed		Laden / Unladen	mm/s	150 / 200	150 / 200	150 / 200
	31 Gradeability			%	10 / 15	10 / 15	10 / 15
Chassis	32 Service weight		w/o Battery	kg	2365	2415	2730
	33 Axle loading	Reach-in	Laden (Load / Drive)	kg	2785 / 1730	2910 / 1855	3590 / 2080
			Unladen (Load / Drive)	kg	1150 / 1965	1170 / 1995	1380 / 2290
	34 Incl. Battery (6.3)	Reach-out	Laden (Load / Drive)	kg	3835 / 680	4180 / 585	4955 / 715
			Unladen (Load / Drive)	kg	1630 / 1485	1720 / 1445	1915 / 1755
	35 Tyres : Number		Load / Drive / Caster		2 / 1 / -	2 / 1 / -	2 / 1 / -
	36		Load	mm	ø254x114 (Urethane)	ø254x114 (Urethane)	ø267x135 (Urethane)
	37 Tyres		Drive	mm	ø330x145 (Urethane)	ø330x145 (Urethane)	ø380x165 (Urethane)
	38		Caster	mm	-	-	-
	39 Wheelbase		y	mm	1350	1450	1500
Motors	40 Tread		Load	mm	1156	1156	1199
	41		Drive	mm	-	-	-
	42 Ground clearance		Middle of wheelbase F	mm	70	70	80
	43 Service brake		Mech. / Hydr. / Electr. / Pneum.		Electr.	Electr.	Electr.
	44 Parking brake		Foot / Hand / Deadman		Deadman	Deadman	Deadman
	45		Type		DIN C*2)	DIN C*2)	DIN C*2)
	46 Battery		Volts / Ampere hrs (5HR)	V/Ah	48 / 360-420	48 / 360-420	48 / 480-560
	47		Mass (with case)	kg	750	750	940
	48 Drive motor		60min. rating	kw	6.0	6.0	7.0
	49		control		Inverter	Inverter	Inverter
	50 Hydraulic motor		5min. rating	kw	12.0	12.0	12.0
	51		control		Inverter	Inverter	Inverter
	52 Power steering motor		60min. rating	kw	0.55	0.55	0.55
	53		control		Chopper	Chopper	Chopper
	54 Charger		Type (Built-in / Stationary)		Stationary	Stationary	Stationary
	55		for Attachments	MPa	15.7	17.2	17.2
	56 Operating pressure						

*1) No clearance included. *2) BS type battery is also available.

SIT-ON REACH TRUCK

75 SERIES

FBRF14/16/20



SUPERIOR • FEATURES

Rated Capacities and Mast Specifications with Integral Sideshifter

Mast type		Lift height (mm)	Mast specification (mm)						Capacity (Kg) at LC = 600					
			Free lift (mm) H ₂ +s			Mast lowered height (mm) H ₁			FBRF14		FBRF16		FBRF20	
			FBRF14	FBRF16	FBRF20	FBRF14	FBRF16	FBRF20	Std. battery	Large battery	Std. battery	Large battery	Std. battery	Large battery
Three-stage full free mast (Triplex)	430M	4300	1065	1065	1075	1965	1965	1975	1400	1400	1600	1600	2000	2000
	450M	4500	1165	1165	1175	2065	2065	2075	1400	1400	1600	1600	2000	2000
	470M	4700	1215	1215	1225	2115	2115	2125	1400	1400	1600	1600	2000	2000
	500M	5000	1315	1315	1325	2215	2215	2225	1400	1400	1600	1600	2000	2000
	530M	5300	1415	1415	1425	2315	2315	2325	1400	1400	1600	1600	2000	2000
	550M	5500	1515	1515	1525	2415	2415	2425	1400	1400	1600	1600	2000	2000
	570M	5700	1565	1565	1575	2465	2465	2475	1400	1400	1600	1600	2000	2000
	600M	6000	1765	1765	1775	2665	2665	2675	1400	1400	1600	1600	2000	2000
	630M	6300	1815	1815	1825	2715	2715	2725	1350	1400	1550	1600	1900	2000
	650M	6500	1915	1915	1925	2815	2815	2825	1300	1400	1500	1600	1800	2000
	670M	6700	2015	2015	2025	2915	2915	2925	1250	1400	1450	1600	1750	2000
	700M	7000	2165	2165	2175	3065	3065	3075	1200	1400	1400	1600	1700	2000
	730M	7300	2265	2265	2275	3165	3165	3175	1100	1300	1250	1450	1650	1800
	750M	7500	2335	2335	2345	3235	3235	3245	1050	1200	1100	1350	1600	1650
	800M	8000	2495	2495	2505	3395	3395	3405	850	1050	1000	1250	1400	1450
	850M	8500	N/A	2665	2675	N/A	3565	3575	-	-	850	1000	1200	1250
	900M	9000	N/A	2835	2845	N/A	3735	3745	-	-	700	850	1000	1050
	950M	9500	N/A	N/A	3005	N/A	N/A	3905	-	-	-	-	800	900
	1000M	10000	N/A	N/A	3175	N/A	N/A	4075	-	-	-	-	600	750

Note) Mast extended height: Mast lifting height plus 900mm

Battery Specifications

Capacity		Model			Battery Carriage Compartment	O.D. of Case	Weight Kg	
DIN-C 48V	BS 48V	FBRF14	FBRF16	FBRF20	Wc x Lc mm	W x L x H mm	Min.	Max.
360-420*	360	●	●		288 x 1233	283 x 1223 x 784	710	800
480-560	500*	●	●	●	360 x 1233	355 x 1223 x 784	890	1000
600-700	600*	●	●	●	432 x 1233	427 x 1223 x 784	1060	1210

Note) ●: Standard, ○: Option
* Available at ex-factory (360Ah for FBRF14/16)

