

QuaPro-R

Electric Reach Forklift Trucks

1.0 TON — 1.8 TON

8FBR 10 · 13 · 14 · 15 · 18 S(J)XII

8FBR 15 C(J)XII

8FBR 15 · 18 A(J)XII

8FBR 15 · 18 W(J)XII



PROFESSIONAL
PRODUCTIVE
PROFITABLE
PROGRESSIVE

Quad

The 4 "PRO" in response to the customer's voice.
QuaPro-R has greatly advanced in cargo handling operations.

 **SUMITOMO**



QuaPro-R design concept: Space saving
 The mast structure, retracting range, and device layout have undergone major revisions while ensuring the wheel base and the cabin space of the previous. A minimum right-angle stacking aisle width of 2,340 mm (compared to our previous models: -130 mm) has been realized [*8FBR15C model].

The major improvement in turning radius performance realizes: the increase in productivity (in-company increase of 33%), decrease of fatigue levels (in-company decrease of 20%) due to turning operations, and increase of warehousing efficiency (in-company increase of 10%).

QuaPro-R supports our customers in greater efficiency of the logistics operations.



QuaPro-R
 Electric Reach Forklift Trucks

Smoot



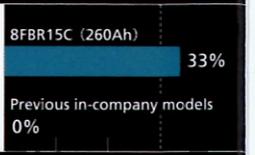
Aisle free space
 (Compared to previous models)

Right-angle stacking aisle width of 2,340 mm

Work efficiency increase of 33% (compared to our previous models)

The decrease in right-angle stacking aisle width enables a large reduction in steering-turn operations when stacking and removing loads from racks in a warehouse, reducing the cycle times for entire operations.

[*8FBR15C model]
 (JIS D6202:2011 in-company test value occurring in operation cycle pattern)



h Turn

Smooth turning and small, facile turning radius

Minimum right-angle stacking aisle width of **2,340 mm** realized.

(Achievement of -130 mm compared to our previous models)

The smooth, small turning radius movement of the QuaPro-R, is designed after a ripple pattern and displayed graphically on the vehicle's step and waist pad.

Ripple Pattern

8FBR15C
(260Ah)

Previous in-company
models

0%

Reduction of fatigue levels

20%

Previous in-company model use

8FBR15C use

QuaPro-R contributes to 10% increase in storage amount

Image shows
warehouse rack area
comparison with new
and old models

Fatigue level reduction of 20%

(compared to our previous models)

The reduction in right-angle stacking aisle width largely reduce the steering-turn operations by the operator. Unnecessary operations are minimized to enable reduction of operator fatigue levels.

[*8FBR15C model]

(JIS D6202:2011 in-company test value occurring in operation cycle pattern)

Warehouse/storage efficiency increase of 10%

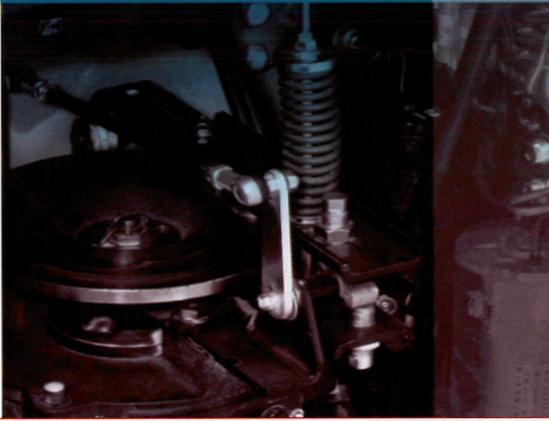
(compared to our previous models)

The reduction in right-angle stacking aisle width enables better utilization of storage space in a warehouse. Increasing the number of rack is made possible by narrowing the aisle width which allows larger volume of storage.

[*8FBR15C model]

*30 m × 16 m warehouse assumed

Energy



QuaPro-R design concept: Energy saving
 QuaPro-R is the first reach-type forklift model to adopt an **IPM motor** which is a drive motor.
 In addition, we pursued thorough high efficiency, such as revising adopted parts like the AC motor for cargo handling operations, reducing the vehicle weight, and optimizing the layout of devices and each type of control.
 Low power consumption level that tops the industry has been achieved (compared to our previous models: 24% decrease). Reductions in power consumption cost (24% decrease) and CO₂ emissions (356 kg decrease/year), and prolong of operating hours (+approx. 2 h/day) are realized. Together with the improved efficiency of the working environment, we will offer our customers an eco-friendly materials handling environment. [*8FBR15C model]

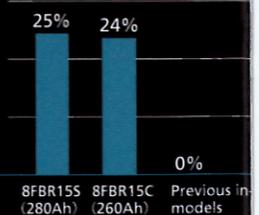


[Photo: 8FBR15C/forklift with high-back-support]

QuaPro-R
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Reduction of power consumption cost

A reduction in power consumption cost of 24% compared to our previous models has been achieved by reducing power consumption.



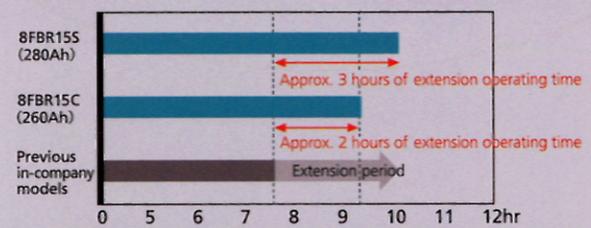
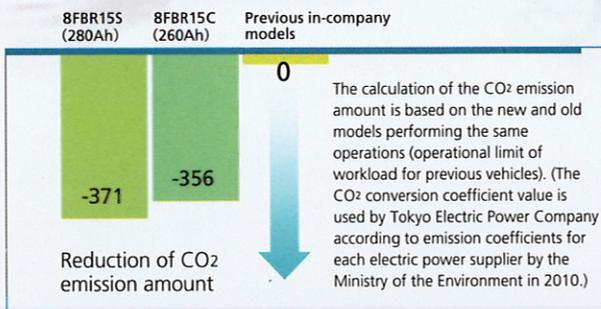
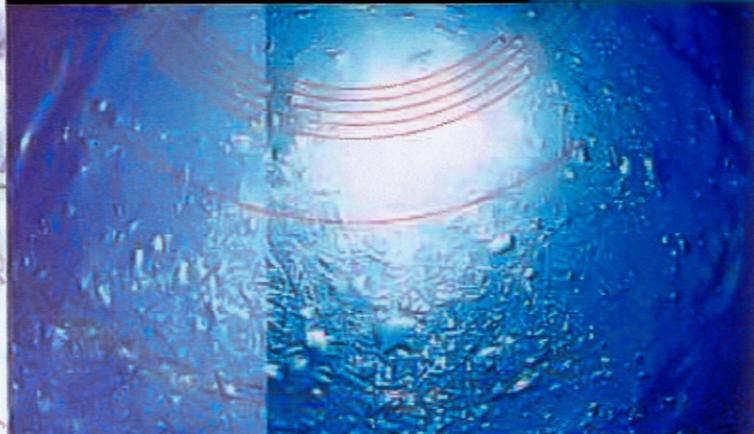
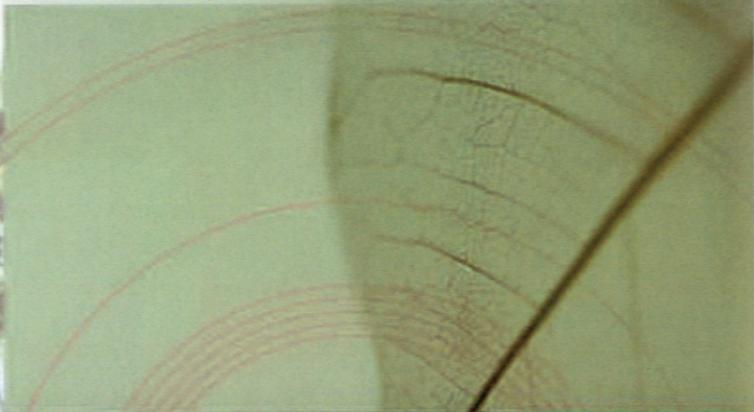
[*8FBR15C model]
 (JIS D6202 2011 in-company test value occurring in operation cycle pattern)

Saving

Eco-friendly energy conservation

Power consumption cost reduced **24%** compared to previous models.

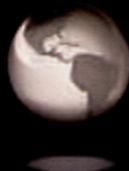
(* Value is for 8FBR15C. 8FBR15S achieved 25%.)



Reduction of CO₂ emission amount

Compared to our previous models, a reduction of 356 kg/year in CO₂ emissions is realized by reducing power consumption. The reduction in CO₂ emissions by the QuaPro-R contributes to our customer's environmental activities.

[*8FBR15C model]



Prolong of operating time

Prolong of approximately 2 hours in operating time compared to our previous models is realized by reducing power consumption. Auxiliary charging is reduced which provides advantages in various situations such as reductions in the entire operation time, or even continuous operation when unexpected additional work is required.

[*8FBR15C model]

(JIS D6202:2011 in-company test value occurring in operation cycle pattern)

QuaPro-R design concept: Integration of human and machine.

The inching ability of the QuaPro-R during travel and cargo handling has been thoroughly revised to realize spontaneous operation in responding to the operator's intentions. Moreover, operator-oriented vehicle manufacturing has been conducted for easy getting on and off by lowering the floor while maintaining good mast visibility. The integrated human-machine operation feel enhances cargo handling efficiency, and leads to overall productivity improvement.

In addition, AWC (small turn radius control) is equipped to realize its key concept of a minimum turning diameter (minimum right-angle stacking aisle widths). Selection to minimize 90-degree turning (stacking mode) during cargo handling can be performed freely.

The QuaPro-R pursues a comfortable operation feel that goes one step further.

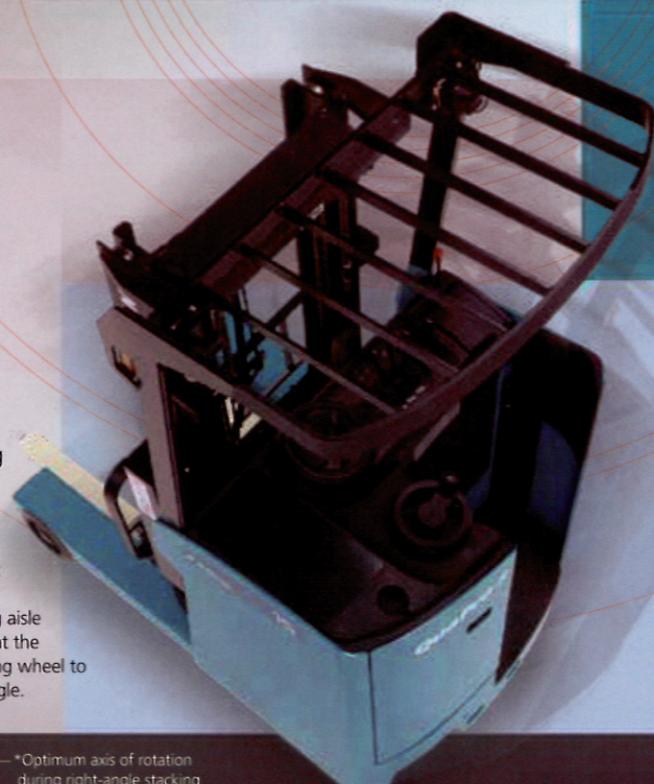


QuaPro-R
Electric Reach Forklift Trucks

Human-Machine Integrated Operation Feel

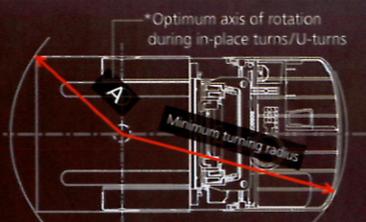
Intuitive operation feel in responding to the operator's intentions

Human Sensible

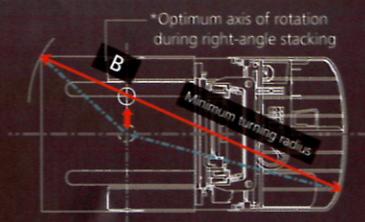


Minimizing turning radius during right-angle stacking "AWC (small turn radius control)" *Patent pending

Stacking mode, minimizing the right-angle stacking aisle width, can be selected at a touch. In-place turns / turning mode, minimizing the turning radius during U-turns, also can be selected at a touch. In stacking mode, the optimum steering angle and axis of rotation are applied automatically to minimize the right-angle stacking aisle width. Being assisted by these features, the operator can make turns at the minimum right-angle stacking aisle width simply by turning the steering wheel to the maximum steering end without minding the optimum steering angle.



[AWC Turning Mode]



[AWC Stacking Mode]

Inching operation smoothness during travel

By revising the previous accelerator and acceleration characteristics, smooth and comfortable speed control range from low to high is realized. When fast acceleration is required, the vehicle can be accelerated quickly, and when performing fine inching operations, moderate acceleration and acceleration characteristics responding to conditions are realized.

Inching operation smoothness during cargo handling

By expanding the low speed range of the lift valve, an easy-to-use characteristic which enhances inching operations during cargo handling is realized. Moreover, by switching the cargo handling motor to an AC motor and optimizing the control during motor start-up, inching performance is improved and good response has been achieved.

Comfortable cabin space for ease of operation

To tap the machine's true performance, maintaining a comfortable cabin where the operator comes into contact is essential. Comfort in getting on and off the cabin space has been enhanced over previous models with meticulous consideration made for the areas where the operator and machine come into contact such as the floor and operation panel.

Comfortable fit for operator

Surround cockpit

A round shaped operator space which wraps flexibly around the operator has been adopted while maintaining the easy-to-operate lever type layout. The parts of the operation space which the operator contacts are curved in shape and are designed to provide a natural body fit feel.



The photographs have been shot for the catalog. In actual model, caution labels are adhered to specified areas.



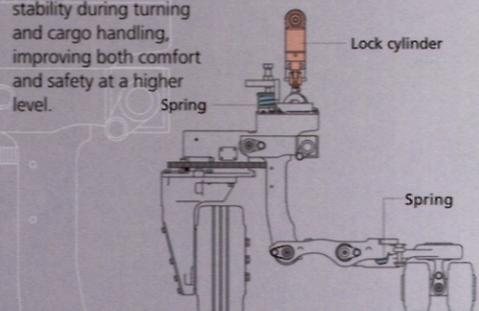
Visor-integrated display

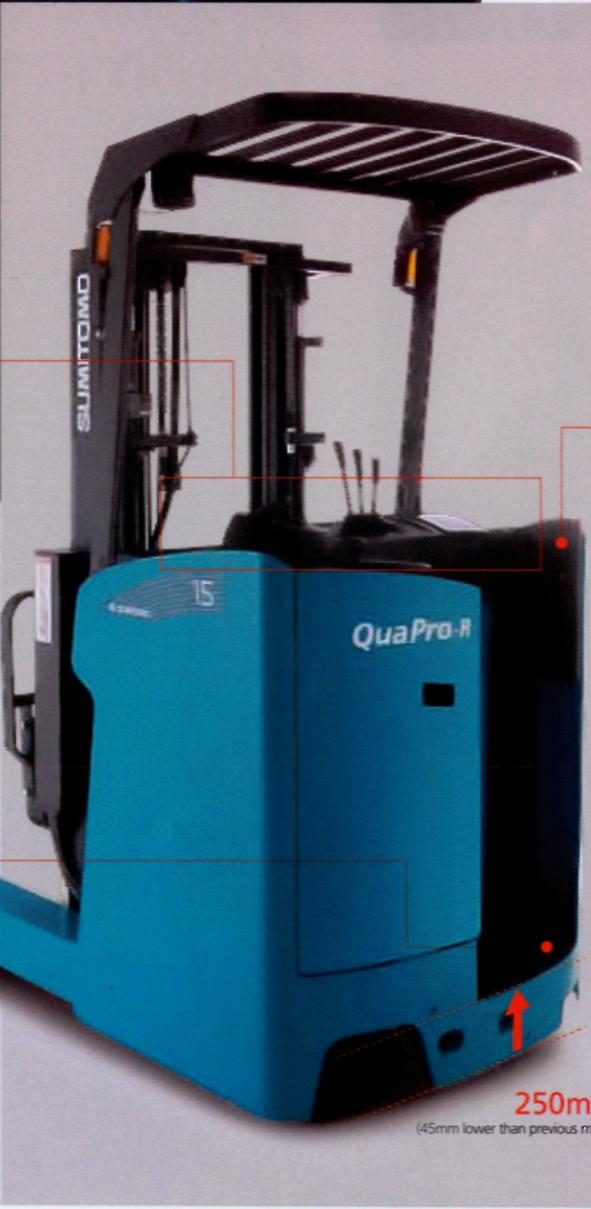
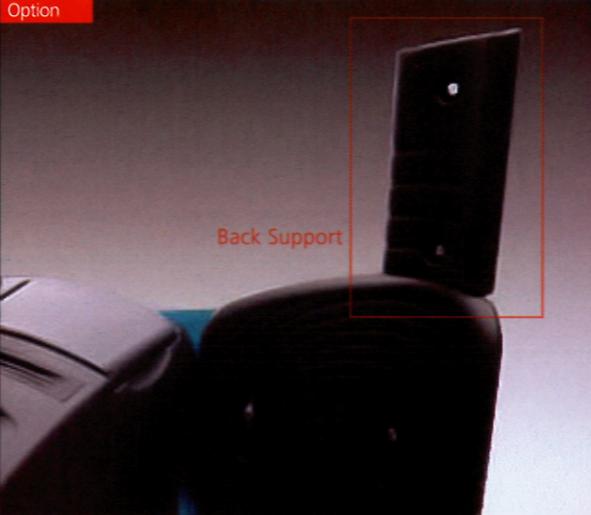
A visor has been newly added to the top of the display to prevent reflected glare and improve visibility. In addition, the display surface is set at an angle facing the operator allowing verification of the display using a natural field of vision.

Reduction of uncomfortable vibration during travel

Low vibration suspension system

The QuaPro-R has adopted a parallel link type structure. Compared to previous models, this structure greatly minimized uncomfortable vibrations from the floor surface, reducing fatigue of the operator. In addition, a suspension lock mechanism has been added to improve stability during turning and cargo handling, improving both comfort and safety at a higher level.





Supports operator's body

**Back support
High back support**

A back support (supports the operator's back) and a high back support (supports the shoulders from the sides) are newly adopted. Support during switchbacks from reverse to forward is provided, and fatigue during normal operation is reduced.



* Shows use of back support

The back support can be adjusted in the vertical direction.



* Shows use of high back support

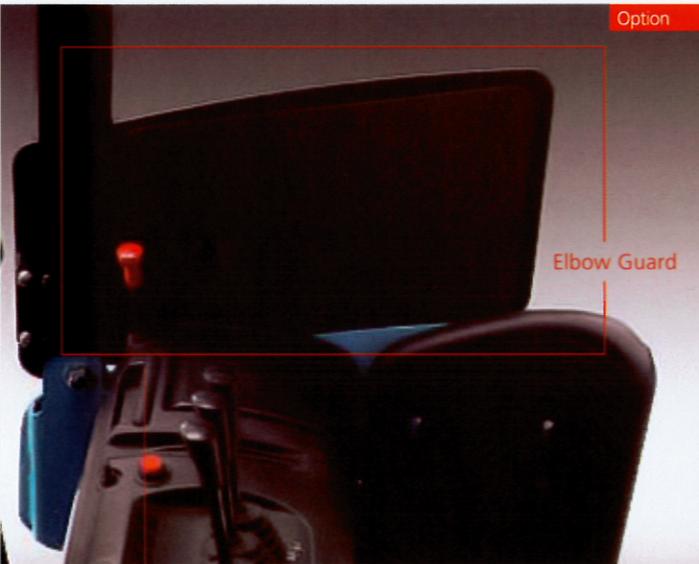
**Reduces fatigue during ingress/egress
Lowered floor *Patent pending**

The QuaPro-R has the lowest floor height of 250mm that tops the industry, -45 mm compare to previous models. This contributes to reduced operator fatigue in reach-forklift truck work with its frequent getting on and off.



Equipment and mechanisms for ensuring safety of operators

The QuaPro-R has various safety mechanisms and equipment to ensure the safety of operators during travel and cargo handling operations. In addition, to ensure the safe operation in high, dark places, various options are available such as LED illumination, a carriage light, and a safety laser.



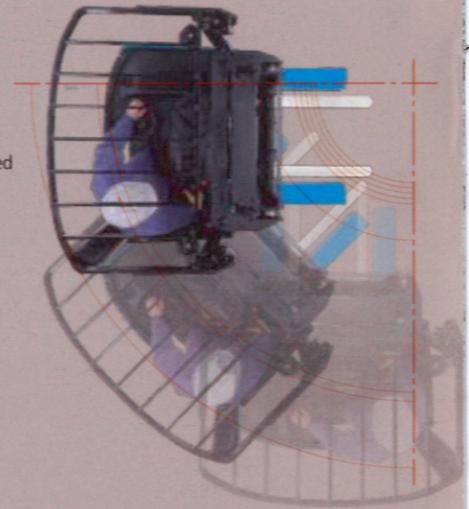
Prevents operator's body from protruding Elbow guard

The elbow guard covers the right side of the forklift to prevent the operator from protruding, and protecting the operator from becoming inadvertently pinned.



Restricts dangerous acceleration during turns Turn speed control

The torque of the travel motor is controlled according to the amount of steering operation. As a result, dangerous acceleration is restricted while the forklift is turning, preventing hazardous situations such as a rollover. In addition, because unnecessary acceleration is prevented, this contributes to energy conservation. The control is optimized according to the amount of steering operation, therefore operability is not sacrificed.



Optimum control of down-slope speed Slope speed limiter

The slope speed limiter, which restricts unwanted acceleration on down-slopes, is standard equipment. The control records the speed when the accelerator pedal is in the neutral position and maintains a constant speed on a down-slope.



Prevents rollback on upslopes Anti-rollback

The anti-rollback mechanism, which prevents the forklift from rolling back when it starts from a stop on an upslope, is standard equipment.



Safety lock during operator's absence Travel and cargo handling interlock

Travel and cargo handling operations are locked while the operator is away. The presence or non-presence of the operator is detected by the riding sensor, operation from outside the forklift is locked even when the key is on. While the cargo handling operations are locked, lift-down operation is locked.



Display during interlock operation



Two optimum controls are combined to provide the highest feeling of safety during starting and stopping.

Front wheel brake anti-skid control

The front-wheel brakes come into assist if the drive tires slip. This control prevents the tires from being locked and provides maximum brake force, the forklift is stabilized and the braking distance is minimized.

Traction control

Slipping during starts and acceleration is prevented and the optimum traction force is transmitted to the ground. Sway due to slipping is prevented and optimum acceleration is obtained even on a slippery surface.

(These two controls are a set option)



Illumination equipment for safe operation



Option

LED headlight (Three-bulb type)

The compact headlight does not reduce the visibility and overhead space. An automatic dimming function is not available. (Power consumption: 7.2 W)



Option

LED auto-light (Illuminance sensing type)

The 8-LED-type light illuminates a wider area. This environmental-spec illumination automatically dims according to the surrounding brightness. (Power consumption: 19.2 W / 4.8 W (dimmed))



Option

Carriage light

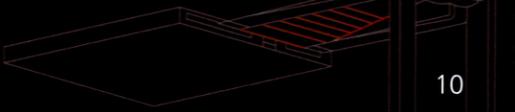
A front light is newly equipped on the carriage. The cargo (fork insertion point) and rack are directly illuminated, cargo handling operations can be performed more safely.



Option

Safety laser

When the forks are detected as being horizontal, horizontal lasers are fired into the insertion holes on the pallet. The operator can determine the fork insertion height accurately and safely. This enhances the efficiency of the operation.



Maintenance cost reduction

The QuaPro-R also fulfills the functions with maintenance. It is designed with consideration for maintenance cost reduction using innovative mechanisms to reduce maintenance-related waste, as well as the addition of various information functions for easy maintenance.

Display

Unified management of simple operations contributes to reduce maintenance cost

Standard display

- Digital clock (with time/alarm function)
- Remaining battery display
- Power mode level display
- Hour meter display (total time/key ON time/travel time)
- Speed limiter setting display
- Forklift operation maintenance data (total time *for five days)
- AWC mode display
- Operator setting mode display

Option



Full-function display

Function/display added to standard display

- Digital clock (with time/year, month, date, day/AM, PM/alarm function)
- Hour meter display (total time/key ON time/travel time/cargo operation time/distance)
- Speed limiter setting display (with set speed display)
- Forklift operation maintenance data (total time/battery charge time/travel time/cargo operation time/distance *for nine days)

Option

Full-function display-unique options

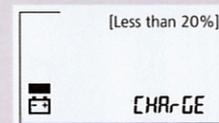
- Password entry
- PCS (Shock-less cargo operation, Automatic lift stop, Automatic horizontal stop)

Battery care standard setting by warning display and cargo operation restriction

BDI interrupt (over-discharge cargo handling lock)

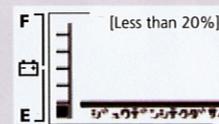
When the remaining battery is about 20 %, a warning message will be shown on the display and the lifting speed is reduced. If the operation is continued, the lifting operation will be stopped to prevent battery over-discharge.

* Recharge the battery immediately when the warning indication is illuminated.



Standard display

Lift speed reduction range



Full-function display

Lift operation is stopped

Mechanisms for cost reduction

First adoption of high-efficiency motor on reach forklift truck

IPM motor

Compact and highly efficient IPM motor which is also used on electrical automobile, is adopted for the travel motor. The IPM motor has high dust-proof performance which eliminates grease shortage malfunctions and contributes in reducing maintenance costs.

Maintenance cost reduction
AC motor for load handling

An AC motor is adopted for the load handling motor, its high efficiency contributes to energy conservation. Parts which wear out such as brushes and contactors are unnecessary. This contributes in reducing maintenance cost.

Maintenance

QuaPro-R

Electric Reach Forklift Trucks

Plenty of variations are available.

Select the appropriate model matching the type of work and environment.

Variation

1.0 ton	S	1.25 ton	S	1.35 ton	S
1.5 ton	C S	A W	1.8 ton	S A W	



[Photo : 8FBR15C]

Fisheries-use & freezer spec./Other special-spec. models



Fisheries-use spec. model
This type is suitable for operations which handle fishery and water-related products. Highly reliable forklift with enhanced anti-moisture and anti-rust countermeasures provides high resistance against water leakage and rust.

~-10°C



Fishery-product freezer /refrigerator spec. model
This type has a full water/cold resistance mechanism and performs well flexibly in freezers and refrigerators of fishery-processing companies.

~-35°C/~-45°C



Freezer/refrigerator spec. model
This type assures cargo handling performance, travel performance and energy-conservation effects even under cold temperature conditions, and performs well in freezers and refrigerators of frozen food companies.

~-35°C/~-45°C

Anti-rust spec. model

Anti-dust spec. model

Select the desired battery removal mode based on your maintenance requirements and frequency.

Front battery removal



The battery can be removed by simultaneously operating the key and the battery lock release pedal. Water refilling, inspection and replacement can be performed easily, contributing to reduced maintenance time. Thorough consideration for safety is made such as auto travel-stop while performing maintenance and, of course, mis-operation prevention.

Side battery removal



The battery can be pulled out easily from the side by opening the cover on the side of the vehicle with only a single touch. This also provides flexibility at job sites requiring frequent battery changes.

Specifications				1.0 ton			1.25 ton		1.35 ton	
Model/Type/Battery Pullout type				8FBR10 S(J)XII		8FBR13 S(J)XII		8FBR14 S(J)XII		
Item/Symbol				type S		type S		type S		
				Front	Side	Front	Side	Front	Side	
Performance	Maximum load capacity	kg		1,000		1,250		1,350		
	Standard load center	mm		500		500		500		
	Standard lifting height	mm		3,000		3,000		3,000		
	Free lift	mm	F	113		113		113		
	Reach stroke	mm		455	440	595	580	595	580	
	Tilting angle (up/down)		G/H	5/3		5/3		5/3		
	Travel speed	(Laden)	km/h	9.5		9.5		9.5		
		(Unladen)	km/h	11.0		11.0		11.0		
Lifting speed	(Laden)	mm/s	360		340		320			
	(Unladen)	mm/s	560		560		560			
Minimum turning radius (outer)	mm	I	1,360		1,495		1,495			
Dimensions	Overall length (with fork)	mm	A+K	1,840	1,855	1,920	1,935	1,920	1,935	
	Overall width	mm	L	1,090		1,090		1,090		
	Mast height (when lowered)	mm	B	1,995		1,995		1,995		
	Height at maximum lift height	mm	N	3,935		3,935		3,935		
	Head guard height	mm	M	2,240		2,240		2,240		
	Step height	mm		250		250		250		
	Fork length	mm	A	770		850		850		
	Fork spread width (maximum)	mm	D	725		725		725		
	Fork spread width (minimum)	mm	C	290		290		290		
	Wheel base	mm	O	1,110		1,250		1,250		
	Tread (front/rear)	mm	P/Q	980 / 640		980 / 640		990 / 640		
	Minimum ground clearance	mm	R	70		70		70		
	Vehicle weight	kg		2,035		2,095		2,140		
	Tires	Front wheel			Rubber; $\phi 255 \times 114$		Rubber; $\phi 255 \times 114$		urethane; $\phi 254 \times 102$	
Drive wheel				Rubber; $\phi 330 \times 145$		Rubber; $\phi 330 \times 145$		Rubber; $\phi 330 \times 145$		
Caster wheel				Rubber; $\phi 150 \times 80$		Rubber; $\phi 150 \times 80$		Rubber; $\phi 150 \times 80$		
Electrical components	Travel	Control type		FET inverter		FET inverter		FET inverter		
		Output	kW	4.5		4.5		4.5		
	Hoist	Control type		FET inverter		FET inverter		FET inverter		
		Output	kW	9.6		9.6		9.6		
	Steering	Control type		FET chopper		FET chopper		FET chopper		
		Output	kW	0.3		0.3		0.3		
Rechargeable battery	Voltage X Capacity	VxAh	48 / 201		48 / 201		48 / 201			

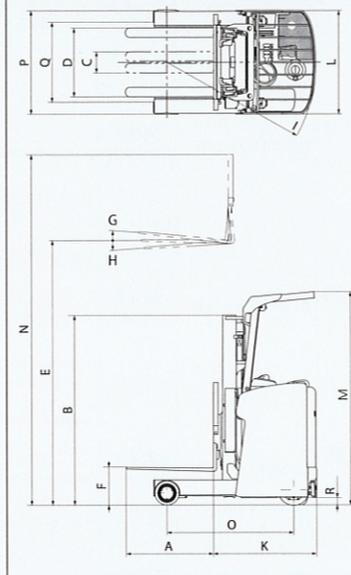
*Front : Front battery removal
Side : Side battery removal

Main Accessories

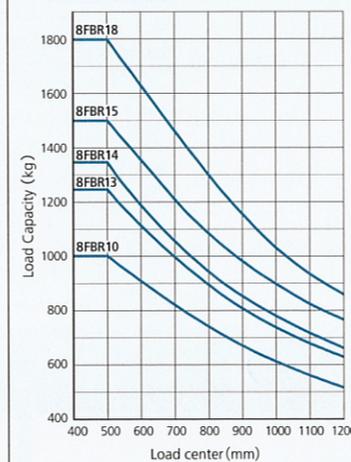
		Standard specs / accessories	Optional specs / accessories			Standard specs / accessories	Optional specs / accessories
Workability	Hoist related	Hoist AC motor	Lift / tilt / reach-speed limiter	Safety	Display *2	Neutral start	Elbow guard
		Soft landing	PCS *1			Slope speed limiter	Rear rubber bumper
		High-visibility wide mast	Simple cargo weight scale			Anti-rollback	Rear bumper (floor elongation shape)
	Steering related	Suspension lock control	Large diameter steering wheel			Volume adjustable type reversing buzzer	Forward/back movement chimer
		AWC (small radius turning control)			Forward/back melodic chimer		
	Travel related	Small diameter steering wheel		Economy	Battery	LCD display	Full function display (Full-dot LCD)
		Travel IPM motor	Speed limiter			BDI interrupt (over discharge loading/unloading lock)	Spare battery
	Lamp related	Travel speed/power adjustment/speed limiter	Head guard low overall height type	Environmental specs.		Auto power off	Battery carrier
		Headlights	LED headlights			Fisheries use spec. (-10°C or more)	
			Turning indicators				LED auto lights (light sensitive type)
			Safety laser				Fisheries use freezer refrigerator spec. (-35°C or more/-45°C or more)
			Carriage light				Anti-rust spec.
			LED turning light				Anti-dust spec.
	LED work light						
Comfortability		LED room light					
	Low vibration suspension system	Back support	*Performs shock-less start to finish loading/unloading, auto-stop at maximum height, and horizontal auto-stop. *For the standard display/full function display function details, refer to the Cost Efficiency page (page 11).				
	Shock-less steering	High back support					
	Low floor	Acrylic top cover					
Waist band							
Safety	Manifest clip						
	Turning speed control	Anti-skid traction control					
	Travel and load handling interlock	Front protector					

1.5 ton								1.8 ton							
8FBR15 C(J)XII		8FBR15 S(J)XII		8FBR15 A(J)XII		8FBR15 W(J)XII		8FBR18 S(J)XII		8FBR18 A(J)XII		8FBR18 W(J)XII			
type C		type S		type A		type W		type S		type A		type W			
Front	Side	Front	Side	Front	Side	Front	Side	Front	Side	Front	Side	Front	Side		
1,500	1,500	1,500	1,500	1,500	1,500	1,800	1,800	1,800	1,800	1,800	1,800	1,800	1,800		
500	500	500	500	500	500	500	500	500	500	500	500	500	500		
3,000	3,000	3,000	3,000	4,000	4,000	4,000	4,000	3,000	3,000	4,000	4,000	4,000	4,000		
113	113	113	113	995	995	995	995	113	113	113	113	995	995		
660	595	770	770	705	705	770	770	770	770	770	770	705	705		
5/3	5/3	5/3	5/3	5/3	5/3	5/3	5/3	5/3	5/3	5/3	5/3	5/3	5/3		
9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0		
10.5	10.5	10.5	10.5	10.5	10.5	10.5	10.5	10.5	10.5	10.5	10.5	10.5	10.5		
310	310	310	310	280	280	280	280	280	280	280	280	250	250		
560	560	560	560	470	470	560	560	560	560	560	560	450	450		
1,580	1,580	1,755	1,755	1,755	1,755	1,755	1,755	1,785	1,785	1,785	1,785	1,755	1,755		
2,015	2,080	2,080	2,080	2,145	2,145	2,080	2,080	2,110	2,110	2,110	2,110	2,145	2,145		
1,090	1,090	1,090	1,090	1,190	1,190	1,090	1,090	1,090	1,090	1,090	1,090	1,190	1,190		
1,995	1,995	2,495	2,495	1,895	1,895	1,995	1,995	2,495	2,495	2,495	2,495	1,895	1,895		
3,935	3,935	4,935	4,935	4,925	4,925	3,935	3,935	4,935	4,935	4,935	4,935	4,925	4,925		
2,240	2,240	2,240	2,240	2,240	2,240	2,240	2,240	2,240	2,240	2,240	2,240	2,240	2,240		
250	250	250	250	250	250	250	250	250	250	250	250	250	250		
920	920	920	920	920	920	920	920	920	920	920	920	920	920		
725	725	725	725	825	825	725	725	725	725	725	725	825	825		
290	290	290	290	290	290	290	290	290	290	290	290	290	290		
1,340	1,340	1,515	1,515	1,515	1,515	1,515	1,515	1,515	1,515	1,515	1,515	1,515	1,515		
990/640	990/640	990/640	990/640	1,090/640	1,090/640	990/640	990/640	990/640	990/640	990/640	990/640	1,090/640	1,090/640		
70	70	70	70	70	70	70	70	70	70	70	70	70	70		
2,225	2,230	2,315	2,315	2,335	2,335	2,315	2,315	2,415	2,415	2,415	2,415	2,435	2,435		
urethane; φ254×102				urethane; φ254×102				urethane; φ254×102				urethane; φ254×102			
Rubber; φ330×145				Rubber; φ330×145				Rubber; φ330×145				Rubber; φ330×145			
Rubber; φ150×80				Rubber; φ150×80				Rubber; φ150×80				Rubber; φ150×80			
FET inverter				FET inverter				FET inverter				FET inverter			
4.5				4.5				4.5				4.5			
FET inverter				FET inverter				FET inverter				FET inverter			
9.6				9.6				9.6				9.6			
FET chopper				FET chopper				FET chopper				FET chopper			
0.3				0.3				0.3				0.3			
48/260				48/280				48/280				48/280			

Dimension chart



Load Capacity Charts



Mast		1.0 ton		1.25 ton		1.35 ton		1.5 ton						1.8 ton								
		8FBR10S		8FBR13S		8FBR14S		8FBR15C		8FBR15S		8FBR15A		8FBR15W	8FBR18S		8FBR18A		8FBR18W			
		type S		type S		type S		type C		type S		type A		type W	type S		type A		type W			
*Mast type		Standard	Semi-free	2Full-free	3Full-free	Standard	Semi-free	2Full-free	3Full-free	Standard	Semi-free	2Full-free	3Full-free	Standard	Semi-free	2Full-free	3Full-free	Standard	Semi-free	2Full-free	3Full-free	
Maximum lifting height (mast designation)	2,500	△	△	△	△	△	△	△	△	△	△	△	△	△	△	△	△	△	△	△	△	△
	2,700	△	△	△	△	△	△	△	△	△	△	△	△	△	△	△	△	△	△	△	△	△
	3,000	●	△	△	△	●	△	△	△	●	△	△	△									
	3,300	△	△	△	△	△	△	△	△	△	△	△	△									
	3,500	△	△	△	△	△	△	△	△	△	△	△	△									
	3,700	△	△	△	△	△	△	△	△	△	△	△	△	△								
	4,000	△	△	△	△	△	△	△	△	△	△	△	△	△	●	△	△	△	△	△	△	△
	4,300	△	△	△	△	△	△	△	△	△	△	△	△	△	△	△	△	△	△	△	△	△
	4,500	△	△	△	△	△	△	△	△	△	△	△	△	△	△	△	△	△	△	△	△	△
	4,800																					
5,000	△	△	△	△	△	△	△	△	△	△	△	△	△	△	△	△	△	△	△	△	△	
5,500																						
6,000																						

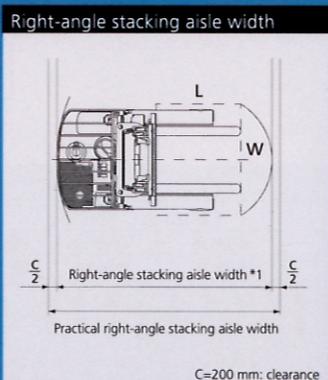
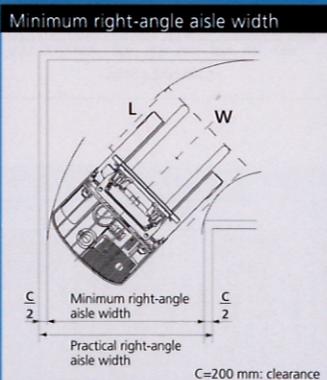
Battery		1.0 ton		1.25 ton		1.35 ton		1.5 ton						1.8 ton							
		8FBR10S		8FBR13S		8FBR14S		8FBR15C		8FBR15S		8FBR15A		8FBR15W	8FBR18S		8FBR18A		8FBR18W		
		type S		type S		type S		type C		type S		type A		type W	type S		type A		type W		
Battery capacity		Front	Side	Front	Side	Front	Side	Front	Side	Front	Side	Front	Side	Front	Side	Front	Side	Front	Side	Front	Side
201Ah/5h (48V)	●	●	●	●	●	●	●														
260Ah/5h (48V)	△	△	△	△	△	△	△	●	●												
280Ah/5h (48V)	△	△	△	△	△	△	△			●	●	●	●	●	●	●	●	●	●	●	●
340Ah/5h (48V)	△	△	△	△	△	△	△			△	△	△	△	△	△	△	△	△	△	△	△
370Ah/5h (48V)	△	△	△	△	△	△	△			△	△	△	△	△	△	△	△	△	△	△	△

*Front : Front battery removal
Side : Side battery removal

Aisle width (unit: mm) Palette length: L, Palette width: W

*The table below indicates the value during AWC (small turn radius control) *Stacking Mode*

Model	Type	Mast	Battery	Intersecting (IA) and Right-angle aisle width					Right-angle stacking (SA) aisle width *1										
				L	800	1,000	1,000	1,000	1,100	800	1,000	1,000	1,000	1,100					
1.0 ton	8FBR10 S(J)XII	typeS Front (side)	Standard / Semi-free	201 (front)	1,550	1,560	1,570	1,610	1,570	2,060	2,210	2,230	2,250	2,320					
				280-370	1,560	1,560	1,570	1,610	1,580	2,130	2,290	2,310	2,330	2,400					
				2-stage full-free	201, 260	1,560	1,560	1,570	1,610	1,580	2,100	2,250	2,270	2,290	2,360				
					280-370	1,560	1,560	1,570	1,610	1,580	2,160	2,320	2,330	2,360	2,430				
				3-stage full-free	201, 260	1,560	1,560	1,570	1,610	1,580	2,100	2,250	2,270	2,290	2,360				
					280-370	1,560	1,560	1,570	1,620	1,580	2,160	2,320	2,330	2,360	2,430				
				1.25 ton	8FBR13 S(J)XII	typeS Front (side)	Standard / Semi-free	201 (front)	1,630	1,630	1,640	1,690	1,650	2,060	2,210	2,230	2,260	2,320	
								280-370	1,640	1,640	1,650	1,690	1,650	2,140	2,290	2,310	2,330	2,400	
								2-stage full-free	201, 260	1,640	1,640	1,650	1,690	1,650	2,100	2,250	2,270	2,290	2,360
									280-370	1,640	1,640	1,650	1,690	1,660	2,160	2,320	2,330	2,360	2,430
3-stage full-free	201, 260	1,640	1,640					1,650	1,690	1,650	2,100	2,250	2,270	2,290	2,360				
	280-370	1,640	1,640					1,650	1,690	1,660	2,160	2,320	2,330	2,360	2,430				
1.35 ton	8FBR14 S(J)XII	typeS Front (side)	Standard / Semi-free					201 (front)	1,630	1,630	1,640	1,690	1,650	2,060	2,210	2,230	2,260	2,320	
								280-370	1,640	1,640	1,650	1,690	1,650	2,140	2,290	2,310	2,330	2,400	
								2-stage full-free	201, 260	1,640	1,640	1,650	1,690	1,650	2,100	2,250	2,270	2,290	2,360
									280-370	1,640	1,640	1,650	1,690	1,660	2,160	2,320	2,330	2,360	2,430
				3-stage full-free	201, 260	1,640	1,640	1,650	1,690	1,650	2,100	2,250	2,270	2,290	2,360				
					280-370	1,640	1,640	1,650	1,690	1,660	2,160	2,320	2,330	2,360	2,430				
				1.5 ton	8FBR15 C(J)XII	typeC Front (side)	Standard / Semi-free	260	1,690	1,690	1,700	1,740	1,700	2,090	2,230	2,250	2,280	2,340	
							Full-free	260	1,690	1,690	1,700	1,740	1,700	2,100	2,250	2,270	2,300	2,360	
							3-stage full-free	260	1,690	1,690	1,700	1,740	1,700	2,100	2,250	2,270	2,300	2,360	
					8FBR15 S(J)XII	typeS Front (side)	Standard / Semi-free	280-370	1,690	1,690	1,700	1,740	1,700	2,140	2,290	2,310	2,330	2,400	
2-stage full-free	280-370	1,690	1,690				1,700	1,740	1,710	2,160	2,320	2,330	2,360	2,430					
3-stage full-free	280-370	1,690	1,690				1,700	1,740	1,710	2,160	2,320	2,330	2,360	2,430					
8FBR15 A(J)XII	typeA Front (side)	Standard / Semi-free	280-370		1,800	1,790	1,800	1,840	1,810	2,140	2,290	2,310	2,340	2,400					
		2-stage full-free	280-370		1,800	1,790	1,800	1,850	1,810	2,190	2,360	2,370	2,390	2,470					
8FBR15 W(J)XII	typeW Front (side)	3-stage full-free	280-370		1,800	1,790	1,800	1,850	1,810	2,190	2,360	2,370	2,390	2,470					
		3-stage full-free	280-370		1,850	1,850	1,850	1,870	1,860	2,190	2,360	2,370	2,390	2,470					
1.8 ton	8FBR18 S(J)XII	typeS Front (side)	Standard / Semi-free	280-370	1,800	1,790	1,800	1,840	1,810	2,140	2,290	2,310	2,340	2,400					
			2-stage full-free	280-370	1,800	1,790	1,800	1,850	1,810	2,190	2,360	2,370	2,390	2,470					
			3-stage full-free	280-370	1,800	1,790	1,800	1,850	1,810	2,190	2,360	2,370	2,390	2,470					
	8FBR18 A(J)XII	typeA Front (side)	Standard / Semi-free	280-370	1,820	1,820	1,830	1,870	1,840	2,170	2,320	2,340	2,370	2,430					
			2-stage full-free	280-370	1,820	1,820	1,830	1,870	1,840	2,220	2,390	2,400	2,420	2,500					
			3-stage full-free	280-370	1,820	1,820	1,830	1,870	1,840	2,220	2,390	2,400	2,420	2,500					
	8FBR18 W(J)XII	typeW Front (side)	3-stage full-free	280-370	1,850	1,850	1,850	1,870	1,860	2,190	2,360	2,370	2,390	2,470					



For the forklift driver operations, inspection and maintenance, always read the instruction manual and follow the instructions correctly.



SUMITOMO NACCO MATERIALS HANDLING CO., LTD., manufacturer of forklift trucks and materials handling equipments, uses a quality management system certified compliant with ISO9001.



SUMITOMO NACCO MATERIALS HANDLING CO., LTD., manufacturer of forklift trucks and materials handling equipments, uses an environmental management system certified compliant with ISO14001.

*1: Figure does not include the turning capacity of 200 mm in the practical right-angle stacking aisle width.

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