FB-IX

ELECTRIC COUNTER-BALANCE FORKLIFT TRUCK

1.0 - 2.5 tons

Class-1 Sit-down type

BEYOND THE LIMITS

FB-IX

1.0 - 2.5 tons

ELECTRIC COUNTER-BALANCE FORKLIFT TRUCK
[Class-1 Sit-down type]

FB-IX with its rigid and water resistant body, provides optimum performance in all material handling scenarios. It fulfills a wide range of specific job requirements while meeting the important criteria of environmental cleanliness and energy conservation. This next-generation battery-powered forklift truck is certainly the solution to operators and other workers. It brings greater work efficiency and productivity to any logistics operations.

LINE UP

	▶ Standard Wheelbase Truck					▶ Long Wheelbase Truck	
Model	FB10-9	FB15-9	FB18-9	FB20-9	FB25-9	FB20-9LB	FB25-9LB
Load Capacity (Rated Capacity)	1000kg	1500kg	1750kg	2000kg	2500kg	2000kg	2500kg

Reliability and Durability

Redesigned from the ground up to deliver maximum performance, the FB-IX has a completely new frame with excellent reliability and rigidity, ready to withstand the toughest work conditions.

Water Resistance

The truck body has an IPX4 rating, which means it resists water splashing from any direction. This makes it possible to work outdoors without worrying about falling rain or splashing water.

International Protection Standard

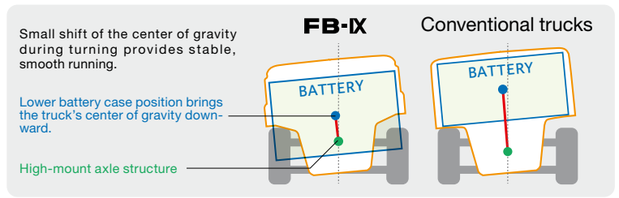
IPX4 Class

Reinforced Super-rigid Frame

The truck has integrated side and main frames. The rear frame is protected by a cast steel bumper. This robust, durable design makes the truck resistant to the hard shocks that can occur during busy work.

Improved Stability during Traveling and Turning

The frame has a low center of gravity, thanks to the lowered battery case position and high-mount axle structure. This design minimizes shifting of the center of gravity while running and turning, for smooth and stable handling.



Eco-Friendly

The FB-IX meets the demands of the times with economical and environment-friendly operation.

ECO Mode

Putting the truck in the ECO Mode's ecology and economy operation helps reduce power consumption.

ECO Mode is easily selected with the flick of a switch on the indicator panel.

N + ECO Mode

Battery runtime per charge

11 hours 30 minutes

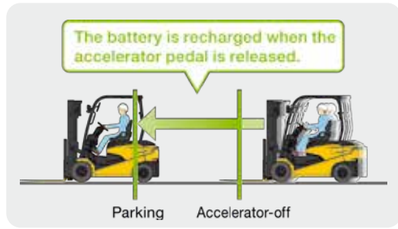
*1. Measured in a standard FB-IX truck with 1.5-ton capacity (battery capacity: 48 V 415 Ah), operating in the F30:2000 work cycle pattern (operating rate 55%, discharge rate 75%) specified by JIVAS (Japan Industrial Vehicles Association).

*2. The above battery runtime should be considered as an estimated figure. Runtime may vary according to the work conditions and use environment.

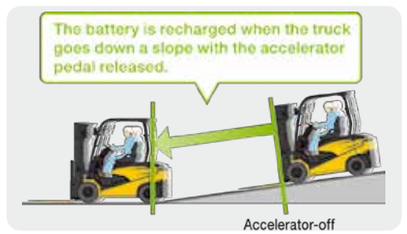
The Regeneration System

Electric energy is efficiently recovered by the following five different regeneration. These are standard package.

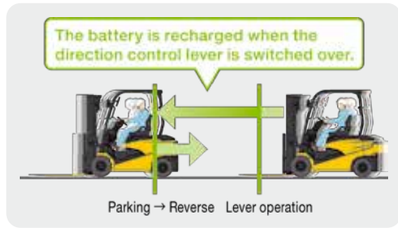
01 Accelerator-off



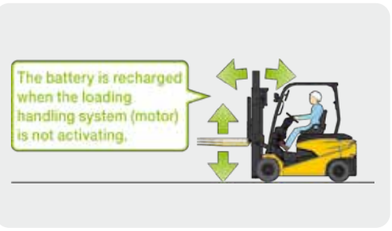
04 Slowing down on downhill



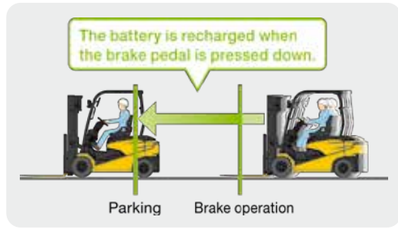
02 Switch-backs



05 Lift/tilt operations



03 Braking



Auto Power-off

The auto power-off is a feature automatically cuts power to the truck after it has been out-of-use for approximately 15 minutes. This prevents waste of power consumption and deals with forgetting to turn off the key switch.

Productivity

Smooth operating feel and better operability boost productivity.

Adjustable Operating Characteristics

The operator can select the most suitable operating mode, for traveling or load handling, to suit his/her driving skills and the working conditions. The custom mode allows even finer tuning of the operating characteristics.

Three operating modes are available for different work conditions.

*When taking delivery of a new lift truck, carefully consider the difference between the P (Power) Mode and N (Normal) Mode before setting the default operation mode.

P Power Mode
Used for operations that require a lot of power and high torque.

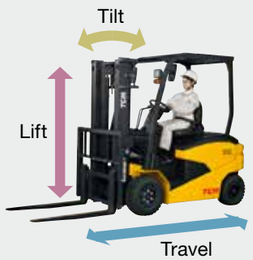
N Normal Mode
Used for standard operations.

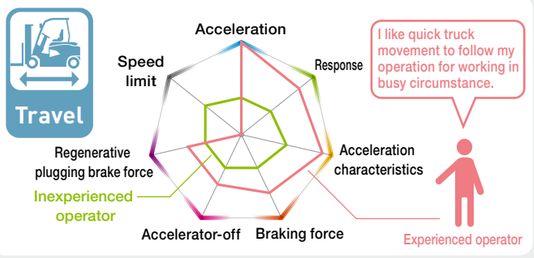
C Custom Mode
Used for customizing both traveling and load handling characteristics.

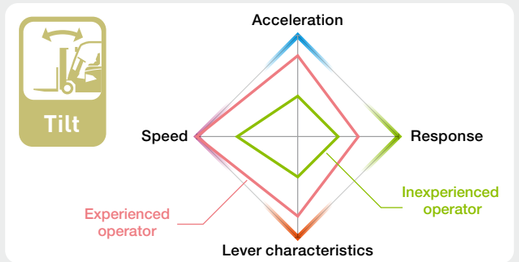
Customizing the Operating Characteristics

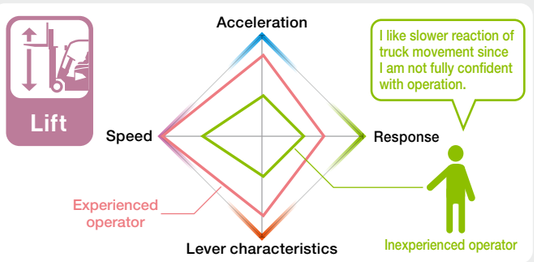
Within the Custom Mode, Administrator Mode can be selected to adjust the operating parameter more precisely. The driving or load handling characteristics can be finely tuned according to the operator's skills and the working conditions. The truck is designed with flexibility to respond to both agile operation by experienced operators and the slower operation by inexperienced operators.

The operating feel for traveling, lifting and tilling can be finely tuned by adjusting parameters and can be registered 10 levels selectable for each type of operation.





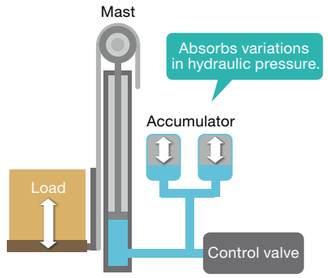




*The parameters in the illustrations should be regarded as estimated figures.

Smooth Run System Option

This system has two accumulators that absorb vibrations in lift cylinder pressure when getting over bumps on the road or floor surface. This reduces vibrations and shocks during all stages of load handling, from no load to full load.



- **Reducing damage to loads**
  The Smooth Run System reduces or alleviates vibrations and shocks to loads on the forks from the road surface during traveling. This system is ideally suited for handling precision devices and glass products.
- **Reducing noise**
  The two accumulators reduce the operating noise from forks that occurs when getting over bumps on the road or floor surface. Noise reduction is needed for load handling in residential areas or at night.
- **Reducing fatigue and improving operator comfort**
  Reduced shocks during traveling will help reduce operator fatigue and improve safety in operation.

LED Lights Option

Optional LED lights are available for safe traveling and load handling operations.

LED Lights

LED lights are bright and energy-saving and have a long life. LED headlights, rear combination lights or a beacon light are available as options. They will help improve worksite safety during load handling operation.

LED headlight

LED rear combination light

LED beacon light

*A single-light type is also available.

Blue Rear Warning Light

The blue rear warning light illuminates the floor surface behind the truck with blue light while it is traveling in reverse, to let other workers around the truck know the direction of travel of the truck or that the approach of truck. The visibility of the truck will be improved in worksites where visibility is restricted or the noise level is high.

Rear LED Line

A line of LED is installed between the rear cover and the counterweight. Workers or trucks behind you can see the truck clearly, even in the dark worksite.

LED Flashlight

An LED flashlight is optionally available. It blinks at the rear part of the truck to let workers who are behind the truck know the location of the moving truck.

LED Spotlight

An optional LED spotlight can be installed on the upper right corner of the overhead guard. Its bright light will help the operator to read documents at a dark worksite.

Battery Exchange Options Option

Two battery exchange options are available. With the fork pocket under battery system, another forklift is used to exchange the battery. In the battery slide roller system, a roller bed is used to pull the battery case.

Fork pocket under battery system

Performance

The FB-IX series are equipped with a central management system using AC motors, enabling a substantial improvement of work efficiency.

Central Management System

The central management system is mounted on all FB-IX Series to provide excellent operability and high safety in almost every type of work situations. Our superb management system ensures safe, efficient and comfortable load handling operations.

Driving & Load Handling Control

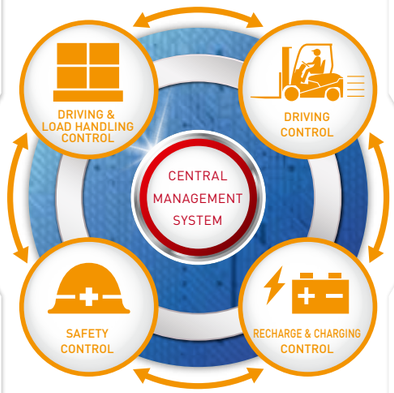
Improvement of productivity by optimum driving and load handling operations and reduction of environmental impact are both achieved.

- Adjustable Operating Characteristics
- Customization of Operating Characteristics
- ECO Mode (Long operating hours)

Safety Control

The safety functions protect employees as well as the loads.

- Sensing Control System (Travel, lift and tilt*)
- Pitching Control System
- Operation Interlock System (OIS)



Driving Control

The advanced driving control technology supports safe driving.

- Safety Cruise Function
- Maximum Travel Speed Setting (switching to "Turtle" speed and limiting maximum speed)
- Automatic Torque Increase

Recharge & Charging Control

Longer battery runtime and improved serviceability reduce the burden on the service department.

- Battery Recharge System (using various regeneration functions)
- Multifunctional Battery Charge Mode
- Automatic Battery Fluid Filler*

*Tilt control is available as an option.

*Option

Safety Cruise Function

After the truck comes to a temporary stop while going up or down a ramp, releasing the accelerator and brake pedals will start the truck moving in reverse at ultra-low speed. This allows movement to be resumed easily and safely. In addition, releasing the accelerator pedal while going down a ramp will prevent acceleration, keeping the speed constant for safe travel to the bottom of the ramp.

Accelerator-off Regeneration
When the accelerator pedal is released while going down a ramp, the travel speed is maintained and the energy is reverted to the battery.

Anti-rollback Function
The truck will drive back at about 1 km/h if the accelerator and brake pedals are released on an uphill ramp.

*It is preferable to use the service brake as well for safety sake.
*The truck with loads should be traveled in reverse when going down a ramp.

Automatic Torque Increase

When starting up a ramp or moving with a heavy load on the forks, the automatic torque increase function automatically detects the weight of loads on the forks and increases the output of the traction motor appropriately, allowing easier starts, especially when going up a ramp.

Operation Interlock System (OIS)

If the operator is not on the seat or leaves the operator's compartment, the Operation Interlock System (OIS) is activated to lock the travel and load handling operations of the truck. This safety system prevents an accident from happening if the operator of the truck is not in the correct driving position or a control is moved unintentionally when the operator is not in the seat.

*This system does not engage the brakes of the truck. Engage the parking brake before leaving the truck.

Maximum Travel Speed Function

(Switching to "Turtle" speed and limiting maximum speed)

Switching to "Turtle" speed: Sets the maximum travel speed to the value specified by the operator.

Limiting maximum speed: Controls travel speed so the truck does not exceed the upper limit preset in the Administrator Mode.

*When "Turtle" speed is selected, the slowest speed is prioritized.

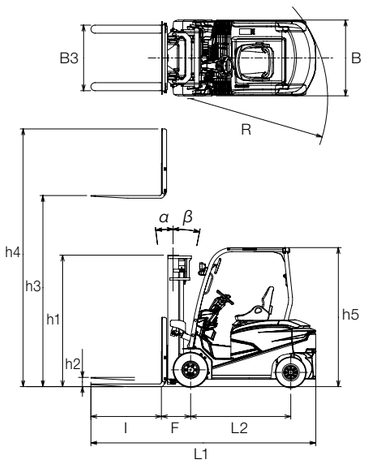
STANDARD SPECIFICATIONS

	Type		Unit	Symbol	Standard Wheelbase Truck					Long Wheelbase Truck	
	Model				FB10-9	FB15-9	FB18-9	FB20-9	FB25-9	FB20-9LB	FB25-9LB
Truck Performance	Load Capacity (Rated Capacity)		kg		1000	1500	1750	2000	2500	2000	2500
	Load Center		mm		500						
	Maximum Fork Height (with Standard Mast)		mm	h3	3000						
	Tilt Angle (Fwd/Bwd)		degree	α/β	7/11						
	Lift Speeds (w. Load/w.o. Load)		mm/s		390/540	350/540	330/540	290/470	260/470	290/470	260/470
	Free Lift		mm	h2	115			140			
	Travel Speeds (w. Load/w.o. Load)		km/h		14.0/16.0		13.5/15.5	14.0/16.0			
	Turning Radius		mm	R	1850		1880	2030	2080	2215	
Truck Dimensions and Weight	Length to Fork Face		mm	L1	2080		2120	2305	2345	2465	
	Overall Width		mm	B	1100		1115	1155			
	Overhead Guard Height		mm	h5	2110						
	Mast Height, Forks Lowered		mm	h1	1990			1995			
	Overall Height, Forks Raised		mm	h4	4055						
	Fork Size		mm	Length l	35×100×1070			40×122×1070			
	Front Overhang		mm	F	395			445			
	Wheelbase		mm	L2	1410			1520		1680	
	Fork Spread		mm	Max. B3	240-920			260-995			
	Tread (Front/Rear)		mm		930/900		925/900	955/965			
	Ground Clearance	At the Center of Wheelbase	mm		110						
	Truck Weight (w.o. Battery)		kg		2060	2190	2420	2895	3270	2965	
Others	Battery (48 V)	Capacity (5-hour Rating)*	Ah/5HR		370	415		510	565	725	
	Electric Motors	Drive Motor	kW		7			8.5			
		Hydraulic Motor	kW		9.5			11.5			
		Power Steering	kW		1.5						
	Battery Charger	Charging Method			Automatic Stationary Charger						
		Capacity	kVA		6.5			8.1		10.7	
	Power Steering				Electro-hydraulic Power Steering						
	Travel/Load Handling Control				AC Inverter Control						
	Front Wheel				6.00-9 10PR		21×8-9 14PR	21×8-9 16PR			
	Rear Wheel				5.00-8 8PR			18×7-8 14PR			

* This is the capacity of the factory installled battery with minimum capacity.

Specifications are subject to change without notice.

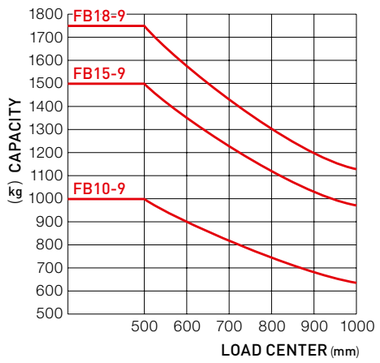
DIMENSIONS



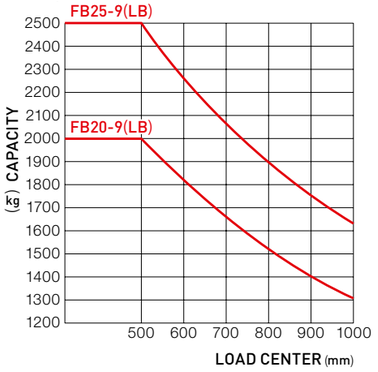
LOAD CHART

(Truck with a 2-stage Wide-view Mast with Lift Height of 3.0 m)

1.0 / 1.5 / 1.75t



2.0 / 2.5t



FB-IX

ELECTRIC COUNTER-BALANCE FORKLIFT TRUCK [Class-1 Sit-down type]

TCM

http://www.tcm-forklift.jp

Note:
These products and specifications are subject to change without notice.
Photos and illustrations may slightly differ from the actual trucks.
Photos and illustrations may or may not include optional equipment and accessories.
Features and specifications may vary depending on markets.
Performance data and dimensions are nominal and subject to tolerances.
Produced in ISO certified factory.

PRESENTED BY :

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