

**NICHYU**



**ELECTRIC LIFT TRUCK  
COUNTER BALANCED  
TRUCKS**

**FB10-30**



## a new age of electric forklift trucks

Electric forklift trucks now compete favorably with engine-powered forklift trucks.



# It's Tough

**Powerful** Our new electric forklift trucks FB series offer traveling speed, acceleration, gradeability, and lifting speed far superior to that of conventional models. The truck also offers superior handling. It's fun to drive, runs great and is a fast and efficient way to transport. Our super-modern forklift truck shatters all existing concepts for electric forklift trucks.

**Comfortable** New-age comfortable operation begins the instant you access into drivers seating compartment. The FB series is equipped with a cozy seat and ample leg space. The bright dash display illuminates when you turn the power on, and the truck is designed to provide maximum forward vision. You're sure to be surprised by the quietness and powerful acceleration when you step on the accelerator.

**Durable** Being very particular about durability, we have overturned conventional thinking that electric forklift trucks cannot be operated in foul weather. Our FB series will not let you down, even if it pours — that is, if the operator can make it!

So you think you need a combustion engine-powered forklift truck for outdoors? No problem. We're now in the age where electric forklift trucks are suitable for both indoors and outdoors use. Electric forklift truck pioneer Nichiyu offers a full line of multipurpose models incorporating the company's abundant experience and expertise in the industry.



# Invincible control system "SICOS-AC"

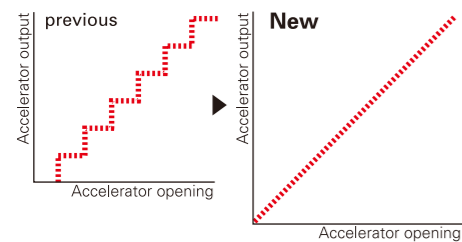
Further developing our popular SICOS (Super Intelligent Control System), we have adapted the AC technology on it and full-tuned to realize superior performances. The large traction and hydraulic motors are also adopted to draw the maximum power out. All of them are designed originally by Nichiyu and they are unrivaled in the industry.



## Acceleration & inching

The same way of stepping on the accelerator easily enables both quick acceleration and smooth-as-silk inching. SICOS-AC also features delicate operation not offered by conventional forklifts.

\*The graph illustrates control during acceleration for our new and old models.



## Gradeability

Electric forklift trucks used to have a hard time climbing slopes, but that is in the past.

The new FB series climbs slopes smoothly that was difficult to climb for conventional models. But don't take our word. Try it!

Then you'll be able to experience the powerful performance that isn't conveyed by simply reading the specification sheet.

## Descending

What do you do when you descend a slope by a forklift truck? Do you keep your foot on the brake pedal while descending? Are you apprehensive of slipping? Our FB series is equipped with the regenerative function as standard. It prepares superior functions to facilitate operation, such as a function that enables you to descend at the same speed after taking your foot off the accelerator and a "creep" function that enables you to start again gently after stopping on a slope.

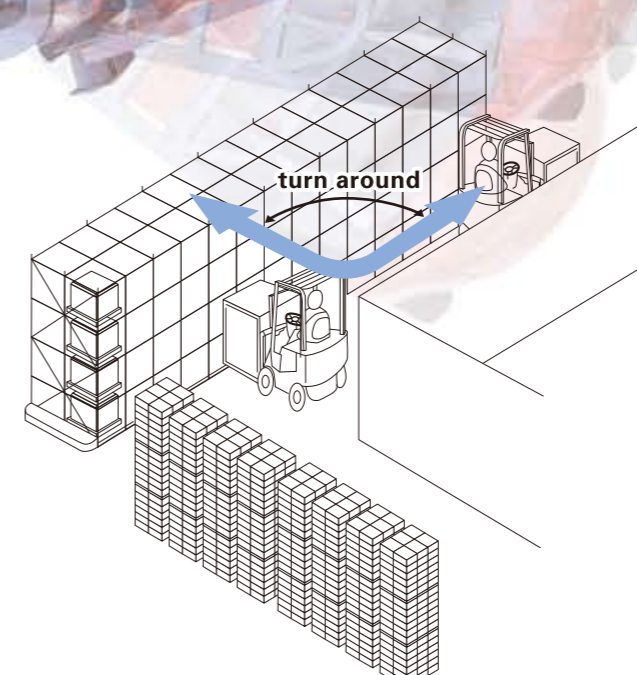
## Lifting

Uses a high-power motor to realize one of the fastest lifting speeds in the industry. Not only has speed been improved, but a function for absorbing shock and jolt produced in the joints of the mast when lifting (lifting shock absorption function) and a function for buffering impact and noise when the fork reaches the ground (soft landing function) are provided as standard equipment. So we are particular about not only speed but quality of lifting as well. (The lifting shock absorption function is available only for models with duplex and triplex masts.)

# HIGH



# LOW



## Right angle stacking aisle width

Right angle stacking aisle width has been reduced by smaller turning radius by adopting a new mast and modifying frame dimensions. Combined with the inching function of SICOS-AC, easily enables operation in places that would be difficult for engine-powered or conventional electric forklift trucks to negotiate.

## Noise

SICOS-AC eliminates clicking noise of contactors of traction and hydraulics completely. The chopping hum while traveling is also eliminated. Realizes quiet operation, holding ear-irritating noise to a minimum.

Our FB series boast quietness far superior to conventional electric trucks, much less combustion engine-powered trucks.

## Maintenance fee

By adopting SICOS-AC, we are able to eliminate the majority of motor brushes and contactors, thereby largely reducing the cost of maintenance.

## Turning radius

The compactness featured by electric forklift trucks has been maintained. Minimum turning radius is even smaller than that of conventional models to facilitate operation in cramped spaces. Our FB series come with speed-sensitive electric power steering (SEPS) as standard equipment, and steering while traveling at low speeds is easier than ever.

## Environment-friendly

Electric forklift trucks are clean because they do not emit harmful automotive exhaust. Electric forklift trucks emit absolutely no toxic gases such as CO, NOx or CO<sub>2</sub> that cause air pollution and global warming, against which countermeasures are being taken on a global scale.

### Amount of automotive exhaust and carbon dioxide discharged per hour

The following graph shows the amount of toxic gases and CO<sub>2</sub> emitted per hour by 1.5-ton forklift truck powered by gasoline engine, 2.0-ton forklift truck powered by diesel engine, and electric forklift truck when performing the following tasks. (30m work cycle)

Carbon monoxide (CO) discharge (grams/cycle)

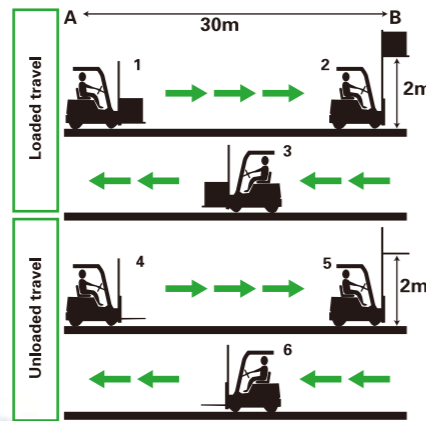
Gasoline	Diesel	Electric
13.24	0.23	0.00

Oxides of nitrogen (NOx) discharge (grams/cycle)

Gasoline	Diesel	Electric
1.76	1.22	0.00

Carbon dioxide (CO<sub>2</sub>) discharge (grams/cycle)

Gasoline	Diesel	Electric
146.37	205.39	0.00



### 30m work cycle (30m between A-B)

1. Loaded travel from point A to point B
2. Tilt/lift up/lift down at point B (loaded)
3. Same task as 2, after loaded travel from point B to point A
4. Unloaded travel from point A to point B
5. Tilt/lift up/lift down at point B (unloaded)
6. Same task as 5, after unloaded travel from point B to point A

## No harm to people or merchandise

Because engine-powered forklift trucks emit automotive exhaust while running, they also emit foul odors and soot that settles on merchandise. The toxic tailpipe gas and dust stirred by the trucks can also harm the health of operators and people working in the area where they are used. Not only do electric forklift trucks not emit automotive exhaust, but they run more smoothly than forklift trucks powered by combustion engines. Our FB series not only produces less noise and vibration than engine-powered forklift trucks, but produce less noise and vibration than conventional electric forklift trucks as well. You can trust Nichiyu, a true pioneer in the field of electric forklift trucks.

## Low running cost

The initial cost of an electric forklift truck is higher than that of an engine-powered forklift trucks, but is much more economical in terms of running cost. Total cost is approximately the same or less than that of an engine-powered trucks if you consider average life of an electric forklift truck. Our FB series offers about the equivalent power as an engine-powered trucks, and is quiet and clean to boot. The more you use it, the better you'll like it!



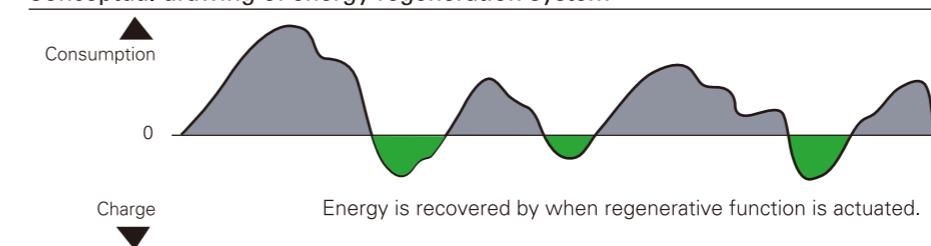
# Clean and environment friendly

Takes daily operation and the global environment into consideration.

## Energy-efficient design

In addition to efficient design of various devices, an assortment of regenerative functions minimizes battery power consumption and contributes to better productivity.

Conceptual drawing of energy regeneration system



## Braking

Energy is recovered when brakes are applied in the conventional manner. Along with making the brakes more sensitive to foot pressure, checks brake lining wear and extend it's lifetime.

## Coasting

Function is activated when the accelerator is released while traveling, which provides the sensation of natural slowdown. At the same time, braking energy is recovered by the battery.

## Speed suppression when descending slopes

Function that recovers energy while maintaining the same speed after removing your foot from the accelerator while descending an incline. FB series are also equipped with a "creep" function that facilitates starting to move forward again after stopping on a slope.

## Plugging

Battery efficiently recovers electrical energy produced when reversing direction while traveling.

## Automatic power off

Power is automatically shut off when the forklift truck remains unused for over 15 minutes to prevent wasteful power consumption if the operator forgets to turn the power off.

# Safe and comfortable



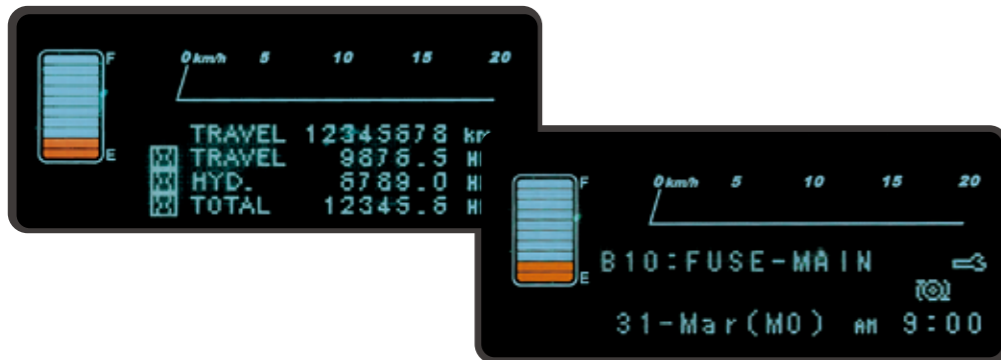
## Easier boarding

Further improving ease of boarding from our previous model, the new FB series has lowered the step and made it wider. We also modified the position of the grip to facilitate getting on and off. The palm pad provided on the battery cover enables you to getting off safely without slipping even if you're wearing gloves.



## Easy-to-read display

Our new vacuum fluorescent display (VFD) is located in the center of the operator's compartment. Information such as traveling speed, battery discharge status, current time and operating hours are displayed in real time on the monitor by SICOS-AC. Uses characters and icons for monitoring to make the display easier to see and understand. You know operating status and machine condition at a glance.

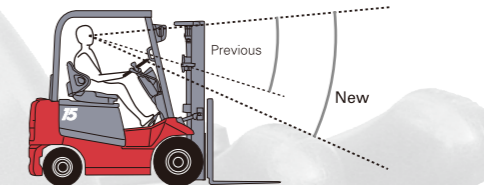


## New super seat

Ergonomic shape is designed to fit the operator perfectly to maintain the optimal driving posture. The seat is comfortable to minimize fatigue when operating for an extended period of time. Our forklifts are also equipped with ELR seatbelt and a "hip resistant bar" to hold the operator in place in case of an accident. The seat is durable and water-resistant.

## Comfortable operator's compartment

Ample leg space, tilted steering column and a new mast design offer better forward vision and comfortable operation. Floor mat is provided as standard equipment to guard against water and prevent slipping. Also comes with a convenient cup holder.



A very wide visibility increases an efficiency of material handling.

## Speed and power setting

SICOS-AC enables the power setting to be switched according to work conditions or the operator's preference, and lets you select the setting the best meets the situation, from smooth, energy-saving "ECONOMY" mode to powerful "POWER" mode.

## Neutral safety function

FB series are equipped with a "neutral safety function" whereby the forklift will not move even if the key switch is turned on with depressing the accelerator or operating the hydraulic lever. Helps prevent accidents caused by unexpected movement.

## Self-diagnosis function

Nichiyu forklift trucks are equipped with our own original function for diagnosing the cause of faults or problems. If a problem occurs, an icon or message is displayed on the monitor to let the operator know right away the location of the problem. The problem is logged in the memory of the SICOS-AC to facilitate maintenance.

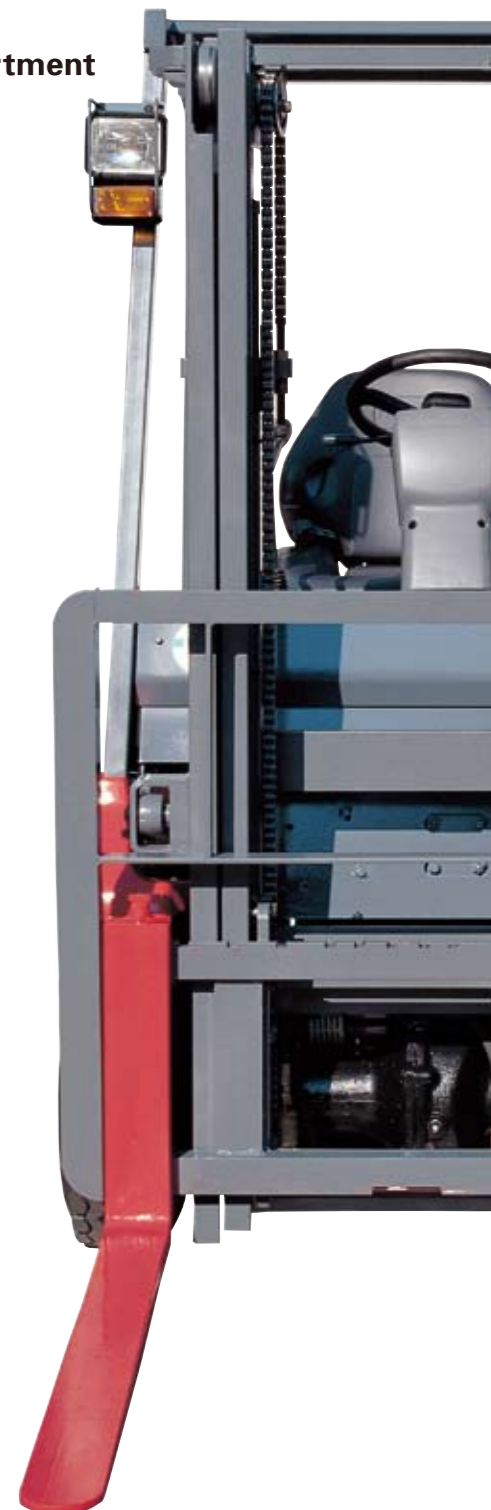


## Operation interlock system(OIS)

If the operation is not seated correctly for more than two second, operation of traveling and hydraulic are interlocked.

## Impact absorbing mast

The new mast with a soft landing function is equipped as standard. It softens impact when the fork comes down to the ground. Forklifts with duplex or triplex masts are provided with a lifting shock absorption function also to absorb impact produced in the joints of the masts when lifting. Relieves the operator from the burden of worrying about the load falling or being damaged by impact.



### Large-capacity battery

A large-capacity battery should be used if the forklift truck is to be used for loading over an extended period of time. The large capacity increases the amount of time the forklift truck can be operated for each recharge, thereby reducing the number of times the battery has to be recharged and thereby raising work efficiency.



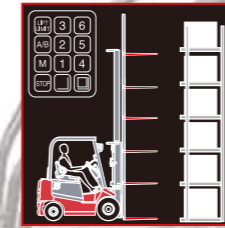
### Fingertip control lever

The control lever that enables you to lift or tilt using the tip of a single finger is optionally available. Because you don't have to move your entire arm to perform each and every operation, fatigue is dramatically reduced even when the machine is operated for an extended period of time. Nichiyu's own original control circuit makes the forklift truck handle very smoothly. Super-sensitive inching control exhibits outstanding performance.



### Automatic lifting stop system "AOS"

If the heights of each rack are entered in the memory, you can automatically raise the fork to that position by simply pressing a button. Exhibits outstanding performance for high lifting positions that are hard to line up the forks with or for racks used over and over again. (Note: When using this function, be sure to check the position by looking before loading or unloading.)



### Roof cap and windshield

Transparent roof cap that block out rain or direct sunlight, and windshield with wipers for use outdoors are available. The roof cap can easily be fitted with a overhead guard. (The forklift can be used with the roof cap alone, but we recommend using in combination with the windshield to protect against rain, etc.)



### Handy box

Handy box for storing helmet, papers, etc. Easy to mount or remove. Can be used as an armrest while operating.



### Load Indicator

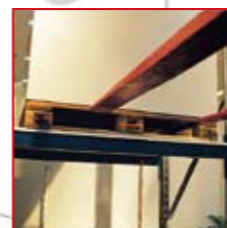
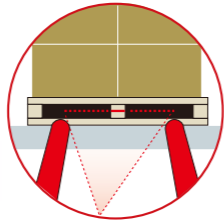
The multi-display instantly shows the weight of the load. This convenient function makes it easy to prevent overloading and underloading. Tare weight settings allow for deduction of the weight of packaging and pallets.



# Options

### Laser pointer

A red laser beam forms a red line of the work to show position of the fork relative to the pallet so you can position the fork accurately even in poorly lit warehouses. The leveling lamps for forks mounted as a set make it easy to level forks that are hard to tell just by looking. Nichiyu's original functions raise work efficiency and enhance safety.



# Variations

**A variety of specifications are available according to your work environment.**

### Cold storage specifications (CS, FCS, FCSZ)

We have a full lineup of specifications including semi cold storage (CS) for temperatures around -35°C and full cold storage (FCS) for temperatures around -55°C, as well as cabin specifications (FCSZ). Low temperature-resistant, humidity-resistant, rustproof equipment increase productivity for low-temperature distribution.

### Rust resistant specification (RP)

Uses rust resistant parts for the backrest, floor and underneath the frame which tend to rust. Ideal for loading processed marine products or marine products containing salt.

### Dust resistant specifications (CD)

Dust resistant electrical parts enables the forklift to be operated in places exposed to excessive dust. (Note: Work ratio is limited because of sealing of equipment. Cannot be used in places where explosive dust is handled. Contact your Nichiyu dealer for details.)



## 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 Nichiyu's terms and conditions. Specifications are subject to change without notice in the interests of product improvement.

# NICHYU

**Nippon Yusoki Co., Ltd.**

1-1, 2-chome, Higashikotari, Nagaokakyo-shi, Kyoto 617-8585 Japan

Phone: +81-(0)75-956-8622 Fax: +81-(0)75-955-0480 URL:<http://www.nichiyunet.co.jp/en/>

