35197-AS Mitsubishi FB10-30CA1 Brochure • Open Size: 420mm(w) x 297mm(h) • Closed Size: 210mm(w) x 297mm(h)

MITSUBISHI FORKLIFT TRUCKS

Ready to Perform
To Your Applications

FB-CA1
SERIES

4-Wheel Electric Pneumatic Tyre

1.0-3.0 ton

MITSUBISHI FORKLIFT TRUCKS

www.mitforklift.com.sg

FMIT0136 (11/15)

PRESENTED BY:

Note: Performance specifications may vary depending on standard manufacturing tolerances, vehicle condition, types of tyres, floor or surface conditions, applications or operating environment. Trucks may be shown with non-standard options. Specific performance requirements and locally available configurations should be discussed with your Mitsubishi forklift truck dealers. Mitsubishi Forklift Trucks follows a policy of continual product improvement. For this reason, some materials, options and specifications could change without notice.

Mitsubishi Forklift Trucks

FB-CA1 Series

Delivering What You Need

Four-wheel electric Mitsubishi forklift trucks match up to engine-powered forklift trucks in performance. Standard features like energy-efficient AC drive and hydraulic motors, a regenerative braking system, performance mode-setting and on-board diagnostics add to the value. The trucks can be tailored to the specific needs of the work application, environment and performance level.

These highly adaptable and efficient electric forklift trucks are the result of our company-wide commitment to build forklifts trucks that deliver Performance with Efficiency, and Safety with Comfort. Indeed, delivering what you need is our obsession.

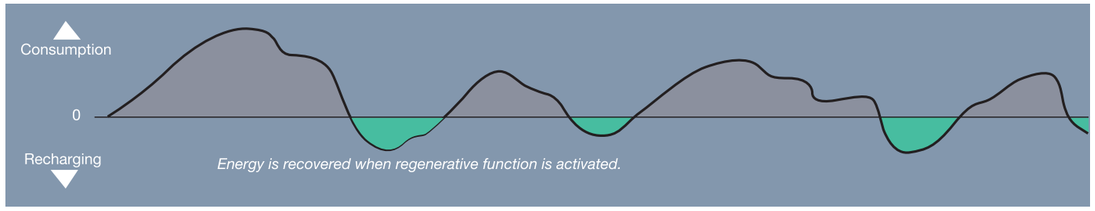
ADVANCED TECHNOLOGY

AC Power *is a revolutionary technology that gives unsurpassed performances to forklift truck operations. The system not only provides a seamless interaction between the operator and machine, it also demonstrates more powerful functional capabilities in truck travelling, hydraulic manoeuvres and power steering.*

ENERGY-SAVING DESIGN

The various devices on board are designed to be efficient in energy use, through an assortment of regenerative features that conserve battery power and contribute to higher productivity.

Conceptual Drawing of the Energy Regeneration System



BRAKING

Depressing the brakes transmits electrical power back to the battery. The brakes are designed to be more sensitive to foot pressure so that wearing of the brake lining is reduced, thus extending the lifespan of the lining.

PLUGGING

When the forklift truck is travelling, reversing direction allows electrical energy to be transferred from the motor back to the battery.

COASTING

This feature creates a sensation of gradual deceleration. It is activated when the accelerator is released while on the move. At the same time braking energy is recovered by the battery.

SPEED CONTROL ON SLOPES

The forklift truck is able to maintain the same speed after the foot is removed from the accelerator when descending a slope. At the same time, the battery recovers energy. The FB-CA1 series is also equipped with a “creep” feature that helps the vehicle to start moving forward gently after stopping on a slope.

MULTIPLE DRIVING MODES

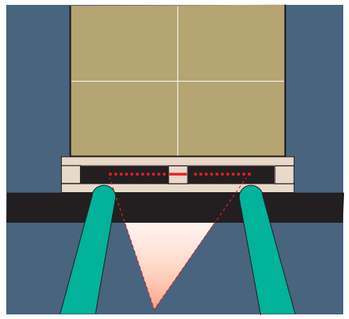
AC Power enables the power setting to be selected between eight driving modes, from the energy-saving “ECONOMY” mode to the “POWER” mode, according to the requirements of the task. Optimal power is used for the job, thus achieving energy efficiency.

AUTOMATIC POWER OFF

Power is automatically cut when the forklift truck is left to idle for more than 15 minutes. This is designed to conserve energy.

LASER POINTER (OPTIONAL)

A transmitter projects a red laser beam on the pallet to indicate where the fork will reach, so that work can be carried out even under poor lighting. Levelling lamps help operators level forks when they are unable to do it with their eyes alone. This feature by Mitsubishi Forklift Trucks raises work efficiency and enhances safety.



LASER POINTER

ECONOMICAL

LOW OPERATING COST

The cost of an electric forklift truck is higher than that of an engine-powered one. However, in the long run, it will cost less because it is more economical to operate. In addition, the FB-CA1 series gives the same level of working power as an engine-powered truck. This offers power with savings.

LOW MAINTENANCE COST

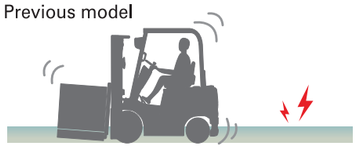
AC Power allows the elimination of motor brushes and contactors, thereby reducing the cost of maintenance.

SAFETY & COMFORT

PITCHING REDUCTION SYSTEM

We've incorporated a Pitching Reduction System to relieve the operator of uncomfortable lurching motion during travel.

Previous model



New model

LOAD INDICATOR

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

EASY-TO-READ DISPLAY

The vacuum fluorescent display (VFD) is located in the centre of the operator's compartment to allow quick access to important information. Data on travelling speed, battery discharge status, current time and key-on hours are displayed in real time. Characters and symbols used are easy to read and understand, so users can monitor machine and work conditions effortlessly.

EASIER ON-OFF ACCESS

The new FB-CA1 series has a low and wide step to make getting on and off an easy task. A well-positioned grip, as well as a palm pad built onto the battery cover, help make on-off access easier, even if the driver is wearing gloves.

COMFORTABLE OPERATOR'S COMPARTMENT

A tiltable steering column allows the operator to operate at the desired comfortable position. Ample leg space offers greater operator comfort and the floor mat provides secure footing even under wet conditions. A convenient cup holder is also a standard item on the dashboard.

OPERATOR'S SEAT

The seat is ergonomically designed to fit the operator so as to maintain the optimal driving posture. This minimises fatigue even after an extended period of operation. The seatbelt and the "hip restraint" protect the operator in case of an accident. The seat is durable and water-resistant for greater comfort.

*Deluxe Full Suspension

MAST AND TRAVEL INTERLOCK

If the operator is not properly seated within two seconds, the mast and travel interlock safety feature will be activated which means the hydraulic and transmission operations are disengaged. This safety feature is essential in forklifts because it prevents fatal forklift accidents that happen most when operators are not seated.

NEUTRAL SAFETY SYSTEM

During key-on, if any of the hydraulic levers is accidentally actuated, or when the accelerator pedal is depressed together with the FNR lever in "F" or "R" position, an error message will appear on the display, leaving the forklift truck immobilised until the error is rectified. This safety system prevents accidents that may be caused by unexpected movement of the forklift truck at key-on.

MAST WITH SHOCK-REDUCTION FEATURES

The Soft Landing feature is installed as standard equipment on the mast. The lowering speed of the forks is automatically reduced when they approach the ground. Forklift trucks with duplex or triplex masts are also provided with a Lifting Shock Absorption feature to reduce the "knocking" impact when the inner mast channels extend. These features help to reduce noise and potential damages to the load.

FALLING OBJECT PROTECTIVE STRUCTURE

The newly designed front cover with beam inside protect operator's legs against falling objects.

EMERGENCY STOP BUTTON

The emergency stop button is located the side of steering column.

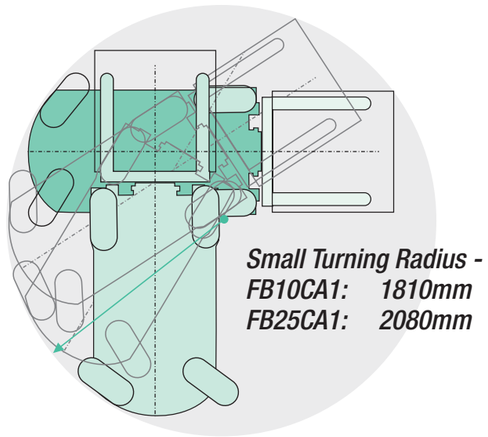
PARKING BRAKE ALERT

An audible and visual alarm alerts an operator who leaves the vehicle without setting the parking brake. This alarm can be triggered even when the key is turned off.

PERFORMANCE

TURNING RADIUS

The FB-CA1 series is more compact than conventional models, and has an even smaller minimum turning radius to facilitate operation in confined spaces. Speed-sensitive electric power steering (SEPS) makes steering while travelling at low speeds easier than ever.



Small Turning Radius -
FB10CA1: 1810mm
FB25CA1: 2080mm

AC POWER

The use of AC technology in the operating system allows Mitsubishi Forklift Trucks to achieve superior performance on the machines. Large traction and hydraulic motors are used to deliver greater power.

LIFTING AND LOWERING

A high-powered motor is used to achieve one of the highest lifting speeds in the industry. In addition, the mast mechanism is designed to absorb shocks created by fast lifting (Lifting Shock Absorption* feature) and fast lowering (Soft Landing feature).

*Available on duplex and triplex masts only.

NARROW AISLE WIDTH FOR RIGHT-ANGLED STACKING

Right-Angled Stacking can now be performed in a narrower aisle. Required aisle width has been reduced through a smaller turning radius, by adopting a new mast structure and by modifying frame dimensions. Together with the inching capability enabled by AC Power, the FB-CA1 series forklift trucks operate with greater ease in confined spaces.

ACCELERATION AND INCHING

Both quick acceleration and smooth, gradual inching can be achieved by stepping on the same pedal. AC Power enables such delicate operations not offered by conventional forklift trucks.

DESCENDING

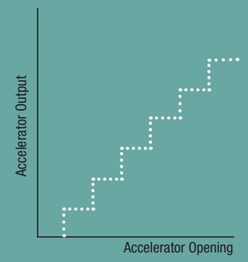
The FB-CA1 series descends a slope with lesser dependence on its brakes and has a lower risk of slipping. Operators can now continue a descent at a constant speed when they have taken their foot off the accelerator. The “creep” feature enables operators to start moving gently after stopping on a slope.

GRADEABILITY

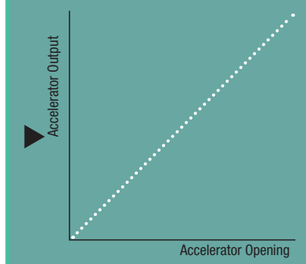
Its enhanced power enables the new FB-CA1 series to climb slopes easier than conventional models.

THIS GRAPH COMPARES THE ACCELERATION TIME AND CONTROL CAPABILITIES OF A CONVENTIONAL DC AND FB-CA1 SERIES.

CONVENTIONAL DC MODEL



FB-CA1 SERIES



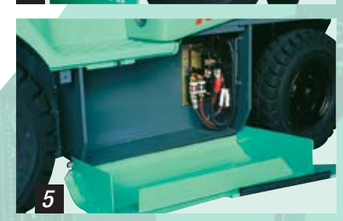
SERVICEABILITY

SELF-DIAGNOSIS FEATURE

Mitsubishi forklift truck FB-CA1 series is equipped with the capability to diagnose the cause of faults automatically. In case of a problem, a message on the monitor alerts the operator. The information is also logged in the memory of the on-board computer for the reference of maintenance engineers.

EASY ACCESS TO COMPONENTS

The design of the new FB-CA1 series provides hassle-free access to the various components. This allows service engineers quick and easy access to troubleshoot or service specific forklift truck machinery parts.



1. Battery 2. Hydraulic Motor 3. Controller 4. Traction Motor 5. Contactors

OPTIONS

LARGE-CAPACITY BATTERY
The large-capacity battery lengthens the operating time for the forklift truck with each recharge, so the truck can be used over an extended period. This reduces the number of times the battery has to be recharged, and increases efficiency.

COLD STORAGE SPECIFICATIONS
This includes the semi-cold storage (CS) specification for temperatures around -35°C and full cold storage (FCS) specification for temperatures around -55°C. Cold-resistant equipment allows extended operation in low temperatures, hence increasing productivity.

RUST RESISTANT SPECIFICATIONS
Rust-resistant parts are used for the backrest, floor and the underside of the frame, which are areas prone to rust. This is ideal for work related to marine products, whose salt content causes rusting.

DUST RESISTANT SPECIFICATIONS
Electrical components can be modified to allow for operation in extremely dusty situations.

FB-CA1 Series
Electric Counterbalanced • 4-Wheel Pneumatic Tyres
48/72 Volt AC Power • 1.0 - 3.0 ton

		ITEM	SUMMARY	UNIT							
TYPE	1	Model			FB10CA1	FB14CA1	FB15CA1	FB18CA1	FB20CA1	FB25CA1	FB30CA1
	2	Rated Capacity		kg	1000	1350	1500	1750	2000	2500	3000
	3	Load Center		mm	500	500	500	500	500	500	500
	4	Operator Type	Stand-on/ Seated		Seated	Seated	Seated	Seated	Seated	Seated	Seated
DIMENSION	5	Lift Height		mm	3000	3000	3000	3000	3000	3000	3000
	6	Free Lift		mm	115	115	115	115	140	140	155
	7	Tilt Angle	Forward/ Backward	deg	<Mast> 6/12	<Mast> 6/12	<Mast> 6/12	<Mast> 6/12	<Mast> 6/12	<Mast> 6/12	<Mast> 6/12
	8	Fork	Carriage		Class II	Class II	Class II	Class II	Class II	Class II	Class III
	9		Dimensions (L/W/T)	mm	1070/100/35	1070/100/35	1070/100/35	1070/100/35	1070/122/40	1070/122/40	1070/122/44
	10		Spread	mm	920/240	920/240	920/240	920/240	1000/245	1000/245	1000/245
	11	Length	Overall Length	mm	3090	3090	3090	3130	3305	3390	3630
	12		To Fork Face	mm	2020	2020	2020	2060	2235	2320	2560
	13	Width	Overall Width	mm	1105	1105	1105	1105	1195	1195	1185
	14	Height	Mast Lowered	mm	1975	1975	1975	1975	1995	1995	2215
	15		Mast Extended	mm	4015	4015	4015	4015	4000	4000	4000
	16		Overhead Guard	mm	2110	2110	2110	2110	2110	2110	2225
	17	Overhang	Front Overhang	mm	420	420	420	420	435	435	490
	18	Min. Turning Radius		mm	1810	1810	1810	1845	2010	2080	2400
	19	Min. 90° Turning Aisle	1100x1100 Pallet (200mm clearance Included)	mm	1975	1975	1975	1985	2075	2110	2200
	20	Min. 90° Stacking Aisle	1100x1100 Pallet (200mm clearance Included)	mm	3530	3530	3530	3565	3745	3815	4185
PERFORMANCE	21	Travel Speed		km/hr	14.0/16.0	14.0/16.0	14.0/16.0	13.5/15.5	14.0/16.0	13.5/15.5	13.5/15.5
	22	Lifting Speed		mm/s	370/540	340/540	320/540	310/540	280/470	260/470	320/550
	23	Lowering Speed		mm/s	500/500	500/500	500/500	500/500	500/500	500/500	400/400
	24	Max Gradeability		%	19.0	19.0	19.0	17.0	19.0	16.0	16.0
MASS	25	Service weight	Incl. Battery (40)	kg	2635	2770	2875	3050	3595	4175	4660
	26	Axle Loading	Laden (Front/ Rear)	kg	2985/650	3575/545	3850/525	4275/525	4905/690	5725/950	6745/915
	27		Unladen (Front/ Rear)	kg	1245/1390	1230/1540	1245/1630	1235/1815	1570/2025	1555/2620	1890/2770
CHASSIS	28	Tyres: Number	Front/ Rear (X=Drive)		2X/2	2X/2	2X/2	2X/2	2X/2	2X/2	2X/2
	29	Tyres	Front		21x8-9-14PR	21x8-9-14PR	21x8-9-14PR	21x8-9-14PR	23x9-10-16PR	23x9-10-16PR	28x9-15-12PR
	30		Rear		5.00-8-8PR	5.00-8-8PR	5.00-8-8PR	5.00-8-8PR	18x7-8-14PR	18x7-8-14PR	6.50-10-10PR
	31	Wheelbase		mm	1250	1250	1250	1250	1400	1400	1600
	32	Thread	Front	mm	905	905	905	905	960	960	955
	33		Rear	mm	900	900	900	900	935	935	975
	34	Ground Clearance	Min	mm	95	95	95	95	110	110	130
	35		Middle of Wheelbase	mm	110	110	110	110	110	110	185
	36	Service Brake			Hydr	Hydr	Hydr	Hydr	Hydr	Hydr	Hydr
MOTORS	37	Parking Brake	Foot / Hand / Deadman		Hand	Hand	Hand	Hand	Hand	Hand	Hand
	38	Battery	Type		BS/JIS	BS/JIS	BS/JIS	BS/JIS	BS/JIS	BS/JIS	BS/JIS
	39		Voltage / Ampere hrs (5HR)	V/Ah	48/340	48/340	48/435	48/435	48/475	48/565	72/450
	40		Weight (With Case)	kg	560	560	665	665	735	870	1130
	41	Drive Motor	60min. rating	kW	9.0	9.0	9.0	9.0	10.0	10.0	10.0
	42		Control		FET	FET	FET	FET	FET	FET	FET
	43	Hydraulic Motor	5min. rating	kW	9.5	9.5	9.5	9.5	9.5	12.0	15.0
	44		Control		FET	FET	FET	FET	FET	FET	FET
	45	Power Steering Motor	60min. rating	kW	0.4	0.4	0.4	0.4	0.5	0.5	0.5
	46		Control		Chopper	Chopper	Chopper	Chopper	Chopper	Chopper	Chopper
	47	Charger (Option)	Type (Built-in / Stationary)		Stationary	Stationary	Stationary	Stationary	Stationary	Stationary	Stationary
	48		Input	Phase/ V	3/400	3/400	3/400	3/400	3/400	3/400	3/400
	49		Capacity	kVA	4.7	4.7	6.5	6.5	6.5	8.1	12.0
	50	Operating Pressure	for Attachments	Mpa	13.7	13.7	13.7	15.7	15.7	17.2	17.2