

**TCM**

A new dimension in battery-powered forklift trucks

# ACROBA-Ε



**Battery Forklift Truck Series  
1.5-4.0 tons**

Four advanced features in the engine-powered **ACROBA** series stand out even more in the battery-powered version, which offers powerful performance in addition to environmental friendliness.

# ACROBA-ε

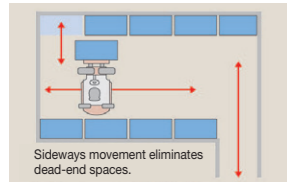
The battery-powered ACROBA-ε series meets your specific job requirements with three power options and improved operability, as well as powerful performance and excellent stability comparable to engine-powered models.



**Load handling and traveling interlock systems are standard on all models!**  
The interlock system helps prevent accidents by disabling the load handling and drive systems if the truck operator is not in the correct driving position.

## Advanced feature 1 Straight sideways movement

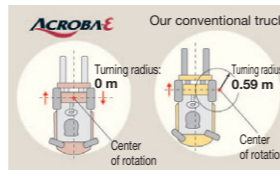
Floor space utilization in warehouses can be improved **10 to 30%**, (for warehouses with a floor space of 1500 m<sup>2</sup> or more)



- Elimination of dead-end spaces offers better utilization of storage space.
- Long loads can be transported in narrow aisles, as long as the aisle is a little wider than the truck's length.

## Advanced feature 2 Spin turns

**Precision turning** on a dime, for maximum maneuverability



- Able to turn from a stationary position with almost zero turning radius in very narrow spaces, because the center of rotation is located in the center of the truck.
- The spin-turn feature reduces the aisle width required to turn the truck by 10% (compared with our conventional truck), for more efficient utilization of floor space.

## Advanced feature 3 Swivel operator's seat

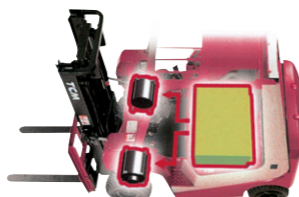
The operator's seat rotates to improve the view to the rear by **50%** in reverse travel.



- The operator's seat rotates to offer a wider rear view when driving backward.
- The 2nd accelerator pedal for reverse travel, and an armrest built into the operator's seat, reduce operator fatigue substantially when traveling continuously in reverse.

## Advanced feature 4 2 x 2 HST

Improved starting on wet surfaces.



- The 2x2 HST left and right independent drive systems are computer controlled, greatly improving the ability to start on slippery surfaces.

**Starting on a wet surface**  
(Time required to travel 5 m after starting with the wheels on one side resting on a wet surface)  
**ACROBA-ε 2.8 sec.**  
Our conventional truck 3.5 sec.

## More Powerful

Choice of three power options

Electric energy storage capacity is increased **30%** on average to meet specific operational circumstances.

The ACROBA-ε allows the operator to select from three power options, depending on the work environment, the amount of load to be handled or the working time: economy, power or super. The choice of three power options offers a strong advantage at load handling sites.

**E Economy mode** ▶ Operating speeds increased **10%!**

Also suitable for delicate handling and transporting of fragile loads. Travel and lift speeds have been increased 10% compared with our conventional truck.

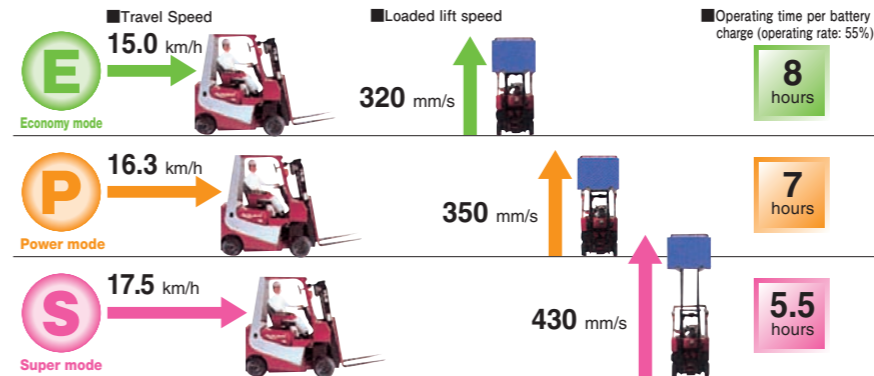
**P Power mode** ▶ Operating speeds increased **20%!**

Suitable for carrying loads a long distance at high speed. Travel and lift speeds have been increased 20% compared with our conventional truck.

**S Super mode** ▶ Operating speeds increased **30%!**

Suitable for load handling in harbors and steel mills. Choose this mode when you need a large amount of power in a short time. Travel and lift speeds have been increased 30% compared with our conventional truck.

### Comparison of the three power options



The values given above were obtained by testing our conventional FB15 trucks and the ACROBA-ε 15 (1.5 tons) truck.

### Powerful yet, safe and comfort

- Operator's seat has side support for better safety.
- Fingertip-controlled hydraulic control levers for easy load handling.
- Armrest built into the operator's seat ensures better comfort.
- Light switch is integrated into the turn signal lever.

## Easier to Service

Lower maintenance costs

### Improved serviceability supports the operator in all aspects

In addition to the superb environmental friendliness prized by TCM battery-powered trucks, serviceability has also been further improved. The time needed to replace or top up the battery has been reduced and the AC motors are low maintenance.

### Battery replacement time reduced due to a rear access battery

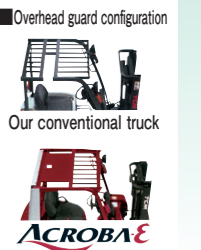
Replacement time is reduced **30%!**

A crane is required to remove and replace the battery in ordinary battery-powered trucks. ACROBA-ε does not require a crane for battery replacement. The battery can be removed from the rear of the truck by one person (15 kgf), alleviating operator fatigue.



**ACROBA-ε**  
Time to remove the battery at the rear: **7 minutes**

The difficulty of replacing batteries has been greatly reduced.



### Single-point battery water top up system reduces service time

Water top up time is reduced **50%!**

Previously, you were required to open each cell, refill it and close it again. ACROBA-ε uses a single-point water top up system which makes it possible to refill all the cells in the battery from a single point. This arrangement greatly reduces the battery maintenance time.

Our conventional truck: 12 minutes

**ACROBA-ε**  
**6 minutes**

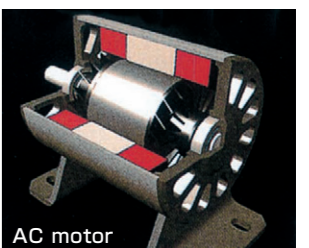
\*The water tank bracket is optional.



### AC motors are virtually maintenance free

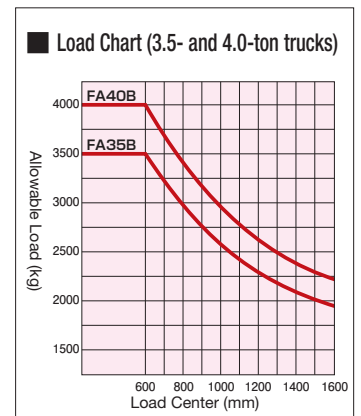
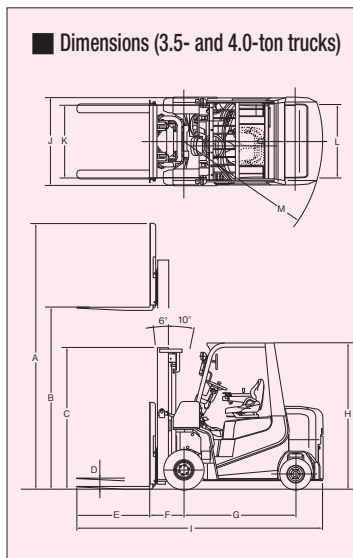
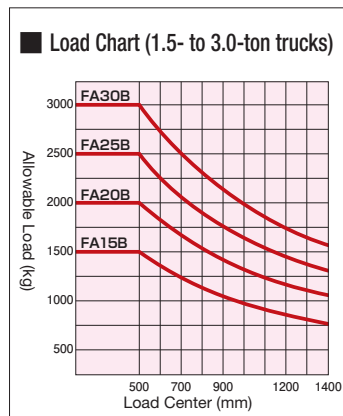
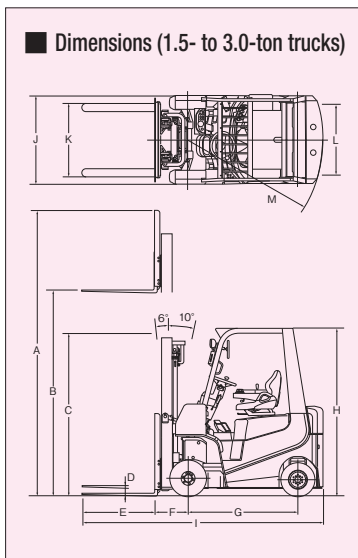
Maintenance costs are **substantially reduced!**

AC motors do not need or use the brush and contact assembly required by conventional DC motors, thus contributing to reduced maintenance costs.



Standard Specifications		FA15B	FA20B	FA25B	FA30B	FA35B	FA40B
<b>Performance</b>							
Max. Capacity	kg	1500	2000	2500	3000	3500	4000
Load Center	mm	500	500	500	500	600	600
Max. Fork Height	mm	B	3000	3000	3000	3000	3000
Free Lift	mm	D	155	160	160	165	150
Lift Speed*	mm/s		430	370	350	320	230
	w/ load						
	w/o load		650	620	620	550	400
Lowering Speed	mm/s		410	500	500	450	430
	w/ load						
	w/o load		450	400	400	350	350
Mast Tilt Angle	deg		6°-10°	6°-10°	6°-10°	6°-10°	6°-10°
Travel Speed*	km/h		16.0	16.0	15.5	14.0	13.0
	w/ load						
	w/o load		17.5	17.0	17.0	16.0	15.0
Minimum Turning Radius	mm	M	1710	1900	1900	2055	2270
<b>Dimensions and Weight</b>							
Overall Length	mm	I	3050	3275	3425	3620	3990
Overall Width	mm	J	1115	1230	1230	1290	1510
Overall Height	mm	C	1995	2040	2040	2075	2205
	Lowered						
	Overhead guard	H	2110	2110	2110	2150	2315
	Extended	A	4030	4030	4030	4265	4265
Minimum Ground Clearance	mm		90	100	100	115	160
Fork Size	mm	E	920	920	1070	1070	1070
Wheelbase	mm	G	1390	1550	1550	1640	1820
Tread	mm	K	930	1020	1020	1060	1260
	Front Wheels						
	Rear Wheels	L	950	1020	1020	1080	1270
Fork Overhang	mm	F	420	455	455	495	600
Truck Weight	kg		3270	3960	4300	5080	7420
<b>Controller</b>			AC controller	AC controller	AC controller	AC controller	AC controller
<b>Motor</b>							
Driving	kW (60 min)		7.1X2	7.1X2	7.1X2	8X2	8X2
Load Handling	kW ( 5 min)		18	18	18	19	19
Steering	kW (15 min)		—	—	—	1.6	1.6
<b>Battery (48V→72V)</b>							
Capacity	kWh		26.6	31.3	33.8	38.2	46.44
	ACROBA-ε						
	Conventional model (ref.)		19.2	21.6	27.1	32.4	—
<b>Tire</b>							
Front Wheels			18X7X8-14	21X8X9-16	21X8X9-16	23X9X10-16	2.50-15-18
Rear Wheels			16X6X8-10	18X7X8-14	18X7X8-14	18X7X8-14	23X9-10-16

\* means the values in SUPER mode. ●The specifications are subject to change without notice.



- TCM retains the right to change these products and specifications without incurring any obligation relating to such changes.
- These products and specifications are subject to change without notice.
- 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.



ISO 9001 Certification  
(TCM Shiga plant)



ISO 14001 Certification  
(TCM Shiga plant)

**Manufactured by**  
**TCM**  
**TCM CORPORATION**

1-15-10, Kyomachi-bori, Nishi-ku,  
Osaka, 550-0003, Japan  
TEL: +81-6-7669-8906  
FAX: +81-6-7669-8916  
www.tcmglobal.net

**Distributed by**