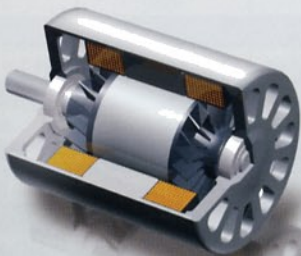


FRB-VIII

Electric Reach Forklift Trucks 1.0 - 3.0ton
Class 2 Stand-up Type



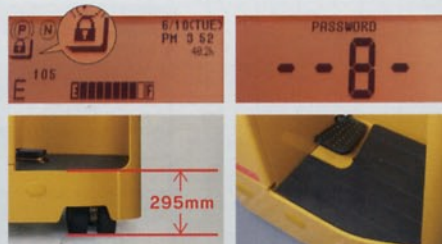
01 Productivity



The FRB-VIII lifttrucks provided with AC drive-motor and regenerative brake system that performs to add extra run time.

Conventional model **8.5hours** → New model **9.0hours**
(at 55% rating work efficiency by TCM's testing standard)

02 Comfortable and Safety



Operator comfort and safety features include Interlock system, Password entry as standard configuration, easy access to operator compartment with lower step design and the soft floor cushion reduces vibration and shock against operator.

03 Excellent maneuverability and easy maintenance



The FRB-VIII lifttrucks provided with integrated dashboard design with the easy-to-read larger LCD display that indicates sufficient information for operation control and managements. Self-diagnosis function supports quick and easy maintenance.

STANDARD SPECIFICATIONS

Characteristics	1	Manufacturer				TCM							
						FRB10-8	FRHB10-8	FRB13-8	FRHB13-8	FRB14-8	FRHB14-8	FRB15-8	FRHB15-8
	2	Model				1000		1250		1350		1500	
	3	Load Capacity			kg	500		500		500		500	
	4	Load Center			mm	Battery		Battery		Battery		Battery	
	5	Power Type				Stand-up		Stand-up		Stand-up		Stand-up	
	6	Operator Position				Solid		Solid		Solid		Solid	
	7	Tire Type	Front / Rear			2/1X+2		2/1X+2		2/1X+2		2/1X+2	
	8	Wheels (x = driven)	Front / Rear										
Dimensions	9	Maximum Fork Height		A	mm	3000	4000	3000	4000	3000	4000	3000	4000
	10	Free Lift		B	mm	105		105		105		105	
	13	Fork Size	L x W x T	N	mm	920 x 100 x 35		920 x 100 x 35		920 x 100 x 35		920 x 100 x 35	
		Fork Spread (Outside)	Max. / Min.	O	mm	710 / 250		710 / 250		710 / 250		710 / 250	
	14	Tilt Angle	Fwd / Bwd	P/Q	deg	3 / 5		3 / 5		3 / 5		3 / 5	
	15	Length to Fork Face			mm	1080		1080		1150		1150	1185
	16	Overall Width		F	mm	1090		1090		1090		1090	
	17	Mast Height Fork Lowered		H	mm	1995	2495	1995	2495	1995	2495	1995	2495
	18	Mast Height Fork Raised		I	mm	3845	4845	3845	4845	3845	4845	3845	4845
	19	Overhead Guard Height		G	mm	2245		2245		2245		2245	
	20	Reach Stroke		D	mm	405	555	555		580		580	725
	21	Turning Radius (Outside)		C	mm	1350	1490	1490		1560		1560	1750
Performance	22	Load Distance (Centerline of front axle to front face of forks)		M	mm	170		170		165		165	
		Rear Overhang			mm	220		220		220		220	
	23	Right Angle Stacking Aisle with 1100 x 1100mm pallet (clearance at 200mm)			mm	2580	2590	2590		2640		2640	2730
	24	Speeds	Travel, Max. (Fwd. / Rvs.)	Full Load	km/h	9.5		9.5		9.5		9.5	
				No Load	km/h	10.5		10.5		10.5		10.5	
	25		Lifting	Full Load	mm/s	330		320		310		310	
				No Load	mm/s	540		540		540		540	
	26		Lowering	Full Load	mm/s	450		450		450		450	
				No Load	mm/s	550		550		550		550	
	28		Reach	Full Load	mm/s	195		195		195		195	
				No Load	mm/s	200		200		200		200	
	30	Max. Gradeability ¹⁾		Full Load	%	10		10		10		10	
				No Load	%	14.3		14.3		14.3		14.3	
Weight	32	Total Weight	No Battery		kg	1505	1600	1640	1720	1650	1645	1675	1665
			With Battery ²⁾		kg	1865	1960	2000	2080	2055	2140	2170	2160
	33	Weight Distribution ²⁾	Full Load	Front	kg	1890	1725	2015	2060	2095	2140	2305	2100
				Rear	kg	975	1235	1235	1270	1315	1350	1365	1560
	34		No Load	Front	kg	645	635	650	695	655	705	710	655
Chassis & Wheels				Rear	kg	1215	1330	1350	1390	1400	1435	1460	1500
	35	Tires	Number	Front / Rear		2 / 3		2 / 3		2 / 3		2 / 3	
	36		Size	Front, Load		φ 255 x 114 Rubber		φ 255 x 114 Rubber		φ 254 x 114 Urethane		φ 254 x 114 Urethane	
	37			Rear, Drive		φ 334 x 145 Rubber		φ 334 x 145 Rubber		φ 334 x 145 Rubber		φ 334 x 145 Rubber	
	38			Rear, Caster		φ 178 x 73 Rubber		φ 178 x 73 Rubber		φ 178 x 73 Rubber		φ 178 x 73 Rubber	
	39	Wheelbase		J	mm	1095	1245	1245		1345		1345	1525
	40	Tread	Front	K	mm	975		975		975		975	
			Rear	L	mm	680		680		680		680	
		Backrest Height			mm	820		820		820		820	
		Overhead Guard Clearance			mm	1910		1910		1910		1910	
		Floor Height			mm	295		295		295		295	
Power Train	41	Underclearance	Center of Wheelbase	R	mm	70		70		70		70	
	42	Brake System				Mechanical Disc		Mechanical Disc		Mechanical Disc		Mechanical Disc	
	45	Battery ²⁾	Voltage / Capacity (5HR)		V/AH	48 / 201		48 / 201		48 / 280		48 / 280	
			Weight		kg	360		360		495		495	
	50	Electric Motors	Drive Motor (AC)		kW/60min	4.3		4.3		4.3		4.3	
			Hydraulic Motor (DC)		kW/5min	8.0		8.0		8.0		8.0	
			Power Steering Motor (DC)		kW/60min	0.3		0.3		0.3		0.3	
						FET Inverter		FET Inverter		FET Inverter		FET Inverter	
	51	Controller Type	Load Handling Control			FET Chopper		FET Chopper		FET Chopper		FET Chopper	
			Steering Control			FET Chopper		FET Chopper		FET Chopper		FET Chopper	
	57	Operating Pressure	For Attachments		MPa	12.3		12.3		13.7		13.7	

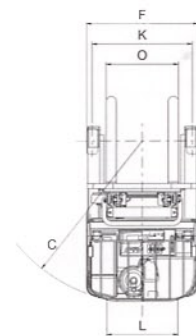
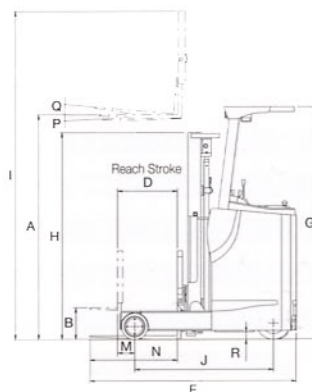
NOTE : 1) Computed Values. 2) Battery is an optional and figures are specified by STD size.

TCM							
FRB18-8 / FRHB18-8		FRB20-8 / FRHB20-8		FRB25-8 / FRHB25-8		FRB30-8 / FRHB30-8	
1800		2000		2500		3000	
500		500		500		500	
Battery		Battery		Battery		Battery	
Stand-up		Stand-on		Stand-on		Stand-on	
Solid		Solid		Solid		Solid	
2/1X+2		2/1X+2		2/1X+2		2/1X+2	
3000	4000	3000	4000	3000	4000	3000	4000
110		410		410		410	
920 × 100 × 38		920 × 122 × 40		920 × 122 × 40		1070 × 125 × 45	
710 / 250		735 / 290		735 / 290		735 / 290	
3 / 5		3 / 5		3 / 5		3 / 5	
1190		1280	1305	1305		1515	
1090		1200		1200		1200	
1995	2495	2035	2535	2035	2535	2085	2585
3845	4845	3930	4930	3930	4930	3930	4930
2245		2300		2300		2300	
725		650	795	795		685	
1750		1795	1965	1965		2065	
170		165		165		165	
220		240		240		240	
2730		2830	2890	2890		3060	
9.5		9.5		9.5		9	
10.5		11.5		11.5		11	
290		270		250		210	
540		480		480		400	
450		450		450		450	
550		550		550		550	
195		260		260		260	
200		260		260		260	
10		10		10		10	
14.3		14.3		14.3		14.3	
1750	1835	2110	2245	2245	2360	2490	2605
2245	2330	2690	2825	2825	2940	3155	3270
2410	2455	2870	2710	3155	3210	3975	4040
1635	1675	1820	2115	2170	2230	2185	2230
675	720	855	860	850	905	1015	1080
1570	1610	1840	1960	1980	2035	2140	2190
2 / 3		2 / 3		2 / 3		2 / 3	
φ 254 × 114 Urethane		φ 267 × 135 Urethane		φ 267 × 135 Urethane		φ 267 × 135 Urethane	
φ 334 × 145 Rubber		φ 380 × 165 Rubber		φ 380 × 165 Rubber		φ 380 × 165 Rubber	
φ 178 × 73 Rubber		φ 204 × 76 Rubber		φ 204 × 76 Rubber		φ 204 × 76 Rubber	
1525		1530	1700	1700		1800	
975		1065	1065	1065		1065	
680		725		725		725	
815		900		900		895	
1910		1915		1915		1915	
295		340		340		340	
70		70		70		70	
Mechanical Disc		Mechanical Disc		Mechanical Disc		Mechanical Disc	
48 / 280		48 / 320		48 / 320		48 / 390	
495		580		580		665	
4.3		6.1		6.1		6.1	
8.0		11.0		11.0		11.0	
0.3		0.3		0.3		0.3	
FET Inverter		FET Inverter		FET Inverter		FET Inverter	
FET Chopper		FET Chopper		FET Chopper		FET Chopper	
FET Chopper		FET Chopper		FET Chopper		FET Chopper	
15.7		17.2		17.2		17.2	

NOTE: ● Meets following major industrial standards and code:

ISO 3184	Reach forklift truck, stability & tests	JIS D6001	Powered industrial trucks - safety code
ISO/DIS 3691	Travel & loading interlock	JIS D6012	Reach forklift truck, stability & tests
ISO 6055	Overhead guard	JIS D6021	Overhead guard
		JIS D6023	Industrial trucks brake performance & safety tests

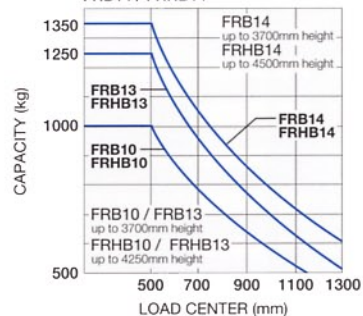
STANDARD DIMENSIONS



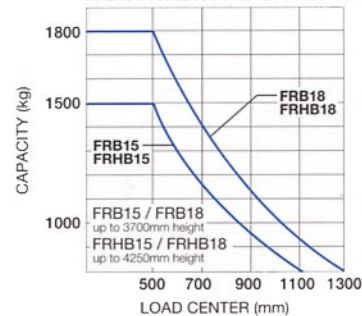
LOAD CHART

[1t STANDARD]

FRB10 / FRHB10 / FRB13 / FRHB13
FRB14 / FRHB14

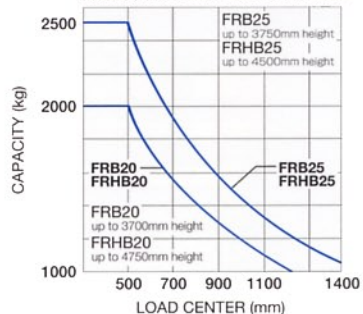


FRB15 / FRHB15 / FRB18 / FRHB18



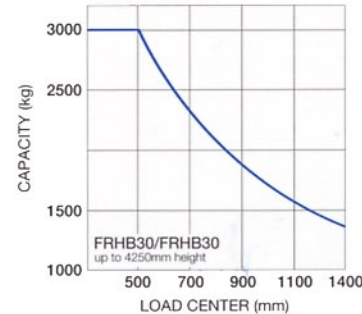
[2t STANDARD]

FRB20 / FRHB20 / FRB25 / FRHB25

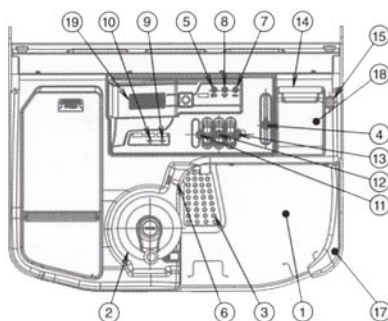


[3t STANDARD]

FRB30 / FRHB30



INSTRUMENTS & CONTROLS



- | | |
|-------------------------------------|---------------------------------|
| ① Operator's compartment | ⑪ Lift lever |
| ② Steering wheel | ⑫ Tilt lever |
| ③ Brake pedal | ⑬ Reach lever |
| ④ Direction change lever | ⑭ Assist. grip |
| ⑤ Lighting switch | ⑮ Emergency knob |
| ⑥ Key switch | ⑯ Charger control panel(option) |
| ⑦ Horn switch | ⑰ Waist & hip support pad |
| ⑧ Turn signal switch | ⑱ Armrest |
| ⑨ Spot light switch(option) | ⑲ Display |
| ⑩ Rear working light switch(option) | |

● In conformity with provision of Machinery Directive 98/37/EC, and as amended.(for EXE configuration)

Configuration for export specification

Model	Option code	FRB10-8	FRHB10-8	FRB13-8	FRHB13-8	FRB14-8	FRHB14-8	FRB15-8	FRHB15-8	FRB18-8	FRHB18-8	FRB20-8	FRHB20-8	FRB25-8	FRHB25-8	FRB30-8	FRHB30-8
Arm rest with assist grip		○		○		○		○		○		○		○		○	
Auto leveling system	ALS	△		△		△		△		△		△		△		△	
Auto-lock suspension system		○		○		○		○		○		○		○		○	
Automatic anti-slip control / drive wheel		○		○		○		○		○		○		○		○	
Auto power off		○		○		○		○		○		○		○		○	
Auto traction control		○		○		○		○		○		○		○		○	
Back-up buzzer		○		○		○		○		○		○		○		○	
Battery ¹⁾	201Ah / 5HR	BAH201	○2)	○2)													
	225Ah / 5HR	BAH225	△	△													
	280Ah / 5HR	BAH280				○2)		○2)		○2)							
	312Ah / 5HR	BAH312				△		△		△							
	320Ah / 5HR	BAH320										○2)		○2)			
	370Ah / 5HR	BAH370				△		△		△							
	390Ah / 5HR	BAH390										△		△		○2)	
Battery carrier	201Ah / 5HR	BAH201	○2)	○2)													
	225Ah / 5HR	BAH225	△	△													
Battery charger (Built-in type/Stational type)			△	△		△		△		△		△		△		△	
Battery container	BC		○	○		○		○		○		○		○		○	
Battery side rollout	BRO					△		△		△		△		△		△	
Central greasing system			○	○		○		○		○		○		○		○	
Chime (Buzzer) / forward traveling	TAF		△	△		△		△		△		△		△		△	
Display	Battery fuel		○	○		○		○		○		○		○		○	
	Clock with calendar		○	○		○		○		○		○		○		○	
	Hourmeter		○	○		○		○		○		○		○		○	
	Odometer		○	○		○		○		○		○		○		○	
	Safety monitor		○	○		○		○		○		○		○		○	
Documents clip			○	○		○		○		○		○		○		○	
Electric power steering	EPS		○	○		○		○		○		○		○		○	
Electro-magnetic front wheel brake	FBK		△	△		△		△		△		△		△		△	
Fire extinguisher	FE		△	△		△		△		△		△		△		△	
Leaser pointer	LSP		△	△		△		△		△		△		△		△	
Head light			○	○		○		○		○		○		○		○	
Neutral safety system			○	○		○		○		○		○		○		○	
Operator tool kit			○	○		○		○		○		○		○		○	
Overhead guard			○	○		○		○		○		○		○		○	
Overhead guard demount type / vaning	HGV											△		△		△	
Overhead guard canvas	HGC		△	△		△		△		△		△		△		△	
Rear working light	RWL		△	△		△		△		△		△		△		△	
Regenerative braking	Accel-off brake		○	○		○		○		○		○		○		○	
	Brake		○	○		○		○		○		○		○		○	
	Down-slope travel		○	○		○		○		○		○		○		○	
	Switch-back		○	○		○		○		○		○		○		○	
Rotating beacon(yellow)	RLY		△	△		△		△		△		△		△		△	
Rotating beacon(red)	RLR		△	△		△		△		△		△		△		△	
Small-dia. steering wheel			○	○		○		○		○		○		○		○	
Speed warning device	SCS					△		△		△							
Spot light	SPL		△	△		△		△		△		△		△		△	
Stational charger (with MICON)			△	△		△		△		△		△		△		△	
Stop & backup lamp	SBL		△	△		△		△		△		△		△		△	
Turn signal lights			○	○		○		○		○		○		○		○	
Waist supporter			○	○		○		○		○		○		○		○	

○ : STD △ : Optional 1) : Battery is an optional equipment. 2) : Std. battery size for factory installation.

RIGHT ANGLE STACKING AISLE (calculated with 200mm of clearance)

Model	Pallet Type : Width (W) x Depth (L)											
	W	L	W	L	W	L	W	L	W	L	W	L
FRB10-8	1000	800	1100	800	1000	1000	1100	1000	1200	1000	1100	1100
FRHB10-8	2310		2340		2460		2490		2520		2580	
FRB13-8	2340		2380		2480		2520		2550		2590	
FRHB13-8	2340		2380		2480		2520		2550		2590	
FRB14-8	2400		2440		2530		2570		2600		2640	
FRHB14-8	2400		2440		2530		2570		2600		2640	
FRB15-8	2400		2440		2530		2570		2600		2640	
FRHB15-8	2510		2560		2620		2660		2700		2730	
FRB18-8	2510		2560		2620		2660		2700		2730	
FRHB18-8	2510		2560		2620		2660		2700		2730	
FRB20-8	2590		2630		2720		2750		2790		2830	
FRHB20-8	2700		2750		2790		2830		2870		2890	
FRB25-8	2700		2750		2790		2830		2870		2890	
FRHB25-8	2700		2750		2790		2830		2870		2890	
FRB30-8	2840		2880		2950		2990		3030		3060	
FRHB30-8	2840		2880		2950		2990		3030		3060	

- All specifications contained in the brochure 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.
- Please consult TCM representative for details.

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