

BRA14E1-02

KOMATSU

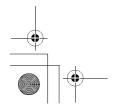
SHOP MANUAL

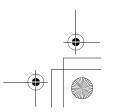
ELECTRIC REACH TRUCK

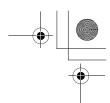
AR50 Series

FB10RL(F)/13RL(F)/15RL(F)/18RL(F)-14 FB10RW/13RW/15RW-14 M245-140001 and up M245-140001 and up

KOMATSU FORKLIFT









Always pay attention to "Safety" before starting any work — this is important. Never attempt any work where danger to yourself or to other persons. Whenever work requiring safety precautions are described in this manual, a flag mark inserted, always make double sure that safety measures are taken.

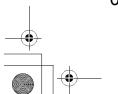


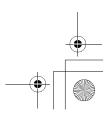
Other unmarked work, should always be performed after studying and using your common sense to prevent accidents.

DESCRIPTION OF THE SYMBOLS

The symbols described below are used in this manual for convenience and better understanding.

Symbol	Item	Description				
A	Safety	Special safety precautions are needed to perform the work.				
*	Note	Special technical precautions are needed to perform the work				
Nm	Tightening torque	Fastening parts that require specified tightening force when assembling.				
k g	Weight	Weight of parts or systems				
	Coat	Places to be coated with adhesives, etc. when assembling				
	Filling	Oil filling and its amount				

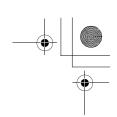




00-2 AR50 Series



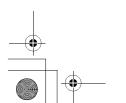


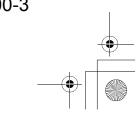


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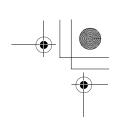
- 00. FOREWORD
- 10. GENERAL AND SPECIFICATIONS
- 20. TESTING AND ADJUSTING
- 30. REMOVAL AND INSTALLATION
- 40. DISASSEMBLY AND ASSEMBLY
- **50. MAINTENANCE STANDARD**
- **60. STRUCTURE AND FUNCTION**
- 70. TROUBLESHOOTING
- **80. YEARLY INSPECTION CRITERIA**
- 90. CONVERSION TABLE

APPENDIX



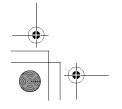




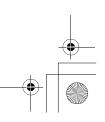


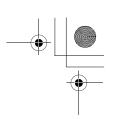










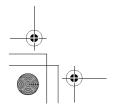


10. GENERAL AND SPECIFICATIONS

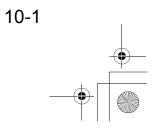
SPECIFICATION	10-2
SAFETY ITEMS FOR MAINTENANCE	10-7
STANDARD TIGHTENING TORQUE FOR BOLTS	10-14
STANDARD TIGHTENING TORQUE FOR PIPE JOINTS	10-15
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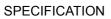




GENERAL AND SPECIFICATIONS







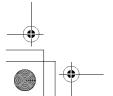
SPECIFICATION

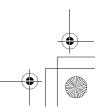
1.Main specification

	1.2	Model	Manufacturer's Designation				FB10RL-14, FB10RLF-14	FB13RL-14, FB13RLF-14
တ္	1.3	Power Type	Electric, Diesel, Gasoline, LPG, Cable				Electric	Electric
stic	1.4	Operation Type	Pedes	trian, Driver Standin	g, Sitting, Order Picki	ing	Standing	Standing
eris	1.5	Rated Capacity	Q1	1 Rated Capacity kg			1000	1250
act	1.6	Load Center	С	Load Center m		mm	500	500
Characteristics	1.6.1	Alternative Capacity	Q2	Capacity@600mm	Load Center	kg	870	1080
0	1.8	Load Distance	х	Front Axle Center	to Fork Face	mm	175	175
	1.9	Wheelbase	у			mm	1110	1250
	2.1	Service Weight	Includ	ing Min. Capacity Ba	attery, see line 6.5	kg	2020	2035
	2.4	_	1 1 -	4	Front	kg	2555	2855
	2.4.1	Axle Loading Mast/Forks	Loaded Rear			kg	465	430
ΙĘ	2.4.2	Extended	Front		Front	kg	905	890
Weight	2.4.3		Unloaded		Rear	kg	1115	1145
ĬŠ	2.5				Front	kg	1940	2020
	2.5.1	Axle Loading Mast/Forks	Loade	ea	Rear	kg	1080	1265
	2.5.2	Retracted			Front	kg	690	635
	2.5.3		Unloa	ded	Rear	kg	1330	1400
	3.1	Tyre Type			ı		Solid	Solid
	3.2	-5151	Front				φ 260 x 120	φ 260 x 120
	3.3	Tyre Size	Rear				φ 360 x 180	φ 360 x 180
Tyre	3.4	1 ., 0 0		onal Wheels			φ 127 x 90	φ 127 x 90
←	3.5	Number of Wheel		Rear(*=driven)			2/1*+2	2/1*+2
	3.6	Tread, Front	b10			mm	975	975
	3.7	Tread, Rear	b11			mm	-	-
\vdash	4.1	Tilting Angle	α/β	Forward/Backward		degree	3/5	3/5
	4.1	Mast Height, Lowered	h1	with Std. Mast		mm	1995	1995
	4.3	Std. Free Lift	h2	with Std. Mast, from	n Ground	mm	105	105
	4.4	Std. Lift Height	h3	,			3000	3000
	4.4	Mast Height, Extended	h4	with Std. Mast, fron with Std. Mast	n Ground	mm	3935	3935
	4.5	<u> </u>	h6	With Sig. Masi		mm	2250	2250
		Height, Overhead Guard	110			mm		1905
	4.19	Length, with Std. Forks		mm			1905	
ω	4.21	Width, at Tyre	b1				1095	1095
Dimenshions	4.22	Forks	s/e/l		engtn	mm	35x100x850	35x100x850
ls l	4.23	Fork Carriage Class		328, Type A/B/no			Pin Mount	Pin Mount
шe	4.24	Width, Fork Carriage	b3			mm	750	750
≅	4.26	Width, between Reach Legs	b4			mm	752	752
	4.28	Reach Travel	14			mm	440	580
	4.31	Ground Clearance	m1	m1 under the Mast mm m2 at the center of Wheelbase mm			75	75
	4.32	District Observation					80	80
	4.33	Right Angle Stacking	Ast			mm	2275	2310
	4.34	Aisle	Ast with L1200 x W8		pallet	mm	2340	2355
	4.35.1	Turning Radius	Wa			mm mm	1325	1465
	4.35.2	Landa cata and the state of	Wb				670	555
	4.37	Length, without Forks	/7	<u> </u>		. ,	1470	1610
1	5.1	Travel Speed (FWD)		d/Unloaded		km/h	9.5/10.5	9.5/10.5
	5.2	Lifting Speed		d/Unloaded		mm/s	350/540	320/540
<u>e</u>	5.3	Lowering Speed		Loaded/Unloaded m Loaded/Unloaded m			500/550	460/550
Performano	5.4	Reach Speed		Loaded/Unloaded			300/300	300/300
Jrn	5.6	Max. Drawbar Pull		3min rating N			5880	5880
erf	5.8	Max. Gradeability		Unloaded 1.5km/h, 3min rating %			32	31
I ^L	5.10	Service Brake		tion/Control			Mechanical, Disc	Mechanical, Disc
	5.11	Parking Brake		tion/Control			Mechanical, Disc	Mechanical, Disc
	5.12	Steering		tion/Control		kW	Electric Power Steering	Electric Power Steering
	6.1	Drive Motor (AC)		60min rating			4.5	4.5
	6.2	Pump Motor (AC)	5min ı			kW	9	9.0
Φ	6.2.1	PS Motor (DC)	60min rating			kW	0.3	0.3
Drive	6.4	Battery Voltage				V	48	48
1	6.4.1	Battery Capacity, Min.		Ah/5-h			201	201
	6.4.2	Battery Capacity, Max.		Ah/5-			240	240
	6.5	Battery Weight, Min. Capacity		kg			365	365
	8.1	Drive Motor Control					MOS-FET inverter	MOS-FET inverter
ī.	8.1.1	Pump Motor Control					MOS-FET inverter	MOS-FET inverter
Others	8.1.2	PS Motor Control					MOS-FET chopper	MOS-FET chopper
0	8.2	Relief Pressure for Attachment		ba			167	167
L	8.2.1	Hydraulic Tank Capacity				Ltr	16	16
		and 4 34 Values are n						

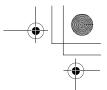
^{4.33} and 4.34 Values are not including a cliearance. See Aisle width section for detail.

10-2 AR50 Series







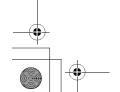


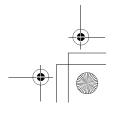
GENERAL AND SPECIFICATIONS

SPECIFICATION

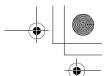
	1.2	Model	Manufacturer's Designation				FB15RL-14, FB15RLF-14	FB18RL-14, FB18RLF-14
ا _د ا	1.3	Power Type	Electric, Diesel, Gasoline, LPG, Cable				Electric	Electric
l ĝi	1.4	Operation Type	Pedes	Pedestrian, Driver Standing, Sitting, Order Picking			Standing	Standing
eris	1.5	Rated Capacity	Q1	Q1 Rated Capacity kg			1500	1800
Characteristics	1.6	Load Center	С	Load Center mm			500	500
	1.6.1	Alternative Capacity	Q2	Capacity@600mm	Load Center	kg	1300	1560
ᄓ	1.8	Load Distance	х	Front Axle Center	to Fork Face	mm	175	175
	1.9	Wheelbase	У			mm	1350	1500
Г	2.1	Service Weight		ing Min. Capacity Ba	attery, see line 6.5	kg	2220	2300
	2.4	Ţ.			Front	kg	3245	3620
	2.4.1	Axle Loading Mast/Forks	Loade	d	Rear	kg	475	480
ــ	2.4.2	Extended	Fro		Front	kg	955	970
Weight	2.4.3	1	Unloaded		Rear	kg	1265	1330
 ≱	2.5				Front	kg	2360	2465
	2.5.1	Axle Loading Mast/Forks	Loaded		Rear	kg	1360	1635
	2.5.2	Retracted			Front	kg	715	690
	2.5.3	1	Unloa	ded	Rear	kg	1505	1610
Н	3.1	Tyre Type			Tiour	ı.g	Solid	Solid
	3.2	l iyio iypo	Front				φ 254 x 114	φ 254 x 120
	3.3	Tyre Size	Rear				φ 360 x 180	φ 360 x 180
Tyre	3.4	1 1910 0120		onal Wheels			φ 127 x 90	φ 127 x 90
-`	3.5	Number of Wheel		Rear(*=driven)			<i>ψ</i> 127 × 30 2/1*+2	φ 127 x 30 2/1*+2
			b10	licai(-uiiveii)		mm	975	975
	3.6 3.7	Tread, Front	b10			mm	9/5	9/5
⊢		Tread, Rear		F		mm		
	4.1	Tilting Angle	α/β	Forward/Backward		degree	3/5	3/5
	4.2	Mast Height, Lowered	h1	with Std. Mast		mm	1995	1995
	4.3	Std. Free Lift	h2	with Std. Mast, from		mm	105	105
	4.4	Std. Lift Height	h3	with Std. Mast, fron	n Ground	mm	3000	3000
	4.5	Mast Height, Extended		n4 with Std. Mast mm			3935	3935
	4.7	Height, Overhead Guard		h6 mm			2250	2250
	4.19	Length, with Std. Forks	I 1 mm			2005	2075	
ا ا	4.21	Width, at Tyre	b1 mm			1095	1095	
Dimenshions	4.22	Forks	s/e/l	<u> </u>			35x100x850	38x100x850
lig	4.23	Fork Carriage Class		ISO 2328, Type A/B/no			Pin Mount	Pin Mount
ا <u>ا</u> وا	4.24	Width, Fork Carriage	b3				750	730
	4.26	Width, between Reach Legs	b4	mm			752	752
	4.28	Reach Travel	14				580	730
	4.31	Ground Clearance	m1				75	75
	4.32	Greatia Cicarance	m2				80	80
	4.33	Right Angle Stacking	Ast	with L1000 x W120	<u> </u>	mm	2405	2460
	4.34	Aisle	Ast	with L1200 x W800) pallet	mm	2450	2475
	4.35.1	Turning Radius	Wa			mm	1560	1715
	4.35.2		Wb			mm	555	555
	4.37	Length, without Forks	/7				1710	1860
Г	5.1	Travel Speed (FWD)	Loade	d/Unloaded		km/h	9.5/10.5	9.5/10.5
	5.2	Lifting Speed		d/Unloaded		mm/s	320/540	300/540
ا ۾	5.3	Lowering Speed	Loade	d/Unloaded		mm/s	460/550	460/550
anc l	5.4	Reach Speed	Loade	Loaded/Unloaded			300/300	300/300
Performano	5.6	Max. Drawbar Pull	3min r	Loaded/Unloaded mm/s 3min rating			5880	5880
[냝]	5.8	Max. Gradeability	Unloa	Unloaded 1.5km/h, 3min rating %			28	27
ا يا	5.10	Service Brake	Opera	tion/Control			Mechanical, Disc	Mechanical, Disc
	5.11	Parking Brake	Opera	tion/Control			Mechanical, Disc	Mechanical, Disc
	5.12	Steering	Opera	tion/Control			Electric Power Steering	Electric Power Steering
Г	6.1	Drive Motor (AC)	60min	rating		kW	4.5	4.5
	6.2	Pump Motor (AC)	5min r			kW	9.0	9.0
_	6.2.1	PS Motor (DC)	60min			kW	0.3	0.3
Drive	6.4	Battery Voltage				V	48	48
	6.4.1	Battery Capacity, Min.				Ah/5-hour	280	280
	6.4.2	Battery Capacity, Max.				Ah/5-hour	390	390
	6.5	Battery Weight, Min. Capacity				kg	495	495
Н	8.1	Drive Motor Control		KÇ			MOS-FET inverter	MOS-FET inverter
ا ر	8.1.1	Pump Motor Control					MOS-FET inverter	MOS-FET inverter
Others	8.1.2	PS Motor Control					MOS-FET chopper	MOS-FET chopper
l ₹	8.2	Relief Pressure for Attachment	bar			167	167	
Ĺ	8.2.1	Hydraulic Tank Capacity				Ltr	16	16
	0.4.1	Lityurauno farik Gapacity	L				10	10

4.33 and 4.34 Values are not including a cliearance. See Aisle width section for detail









SPECIFICATION

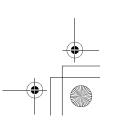
GENERAL AND SPECIFICATIONS

	1.2	Model	Manut	acturer's Designation	n	FB10RW-14	FB13RW-14	
'n	1.3	Power Type	Electric, Diesel, Gasoline, LPG, Cable				Electric	Electric
tics	1.4	Operation Type	Pedes	trian, Driver Standin	g, Sitting, Order Pick	king	Standing	Standing
eris	1.5	Rated Capacity	Q1	, , , , , , , , , , , , , , , , , , ,			1000	1250
Characteristics	1.6	Load Center	С	. ,			500	500
	1.6.1	Alternative Capacity	Q2	Capacity@600mm	Load Center	kg	870	1080
Ċ	1.8	Load Distance	х	Front Axle Center		mm	175	175
	1.9	Wheelbase	у			mm	1110	1250
\vdash	2.1	Service Weight		ing Min. Capacity Ba	attery see line 6.5	kg	2020	2035
	2.4	Corrido Wolgin	moiaa	ing wiin. Oupdony Be	Front	kg	2560	2860
	2.4.1	Axle Loading Mast/Forks	Loade	d	Rear	kg	460	425
1_	2.4.2	Extended	-		Front	kg	910	895
gh	2.4.3	Exterided	Unloaded		Rear		1110	1140
Weight	2.4.3				Front	kg ka	1945	2025
_	2.5.1	Axle Loading Mast/Forks	Loade	ed .	Rear	kg ka	1075	1260
		Retracted			Front	kg	695	640
	2.5.2	Hetracted	Unloa	ded		kg		
\vdash	2.5.3	<u> </u>	-		Rear	kg	1325	1395
	3.1	Tyre Type					Solid	Solid
	3.2		Front				φ 260 x 120	φ 260 x 120
Ф	3.3	Tyre Size	Rear				φ 330 x 145	φ 330 x 145
Tyre	3.4			onal Wheels			φ 150 x 80	φ 150 x 80
[3.5	Number of Wheel		Rear(*=driven)			2/1*+2	2/1*+2
	3.6	Tread, Front	b10			mm	975	975
L	3.7	Tread, Rear	b11			mm	-	-
	4.1	Tilting Angle	α/β	Forward/Backward		degree	3/5	3/5
	4.2	Mast Height, Lowered	h1	with Std. Mast		mm	1995	1995
	4.3	Std. Free Lift	h2	with Std. Mast, fron	n Ground	mm	105	105
	4.4	Std. Lift Height	h3	with Std. Mast, fron	n Ground	mm	3000	3000
	4.5	Mast Height, Extended	h4	with Std. Mast		mm	3935	3935
	4.7	Height, Overhead Guard	h6			mm	2250	2250
	4.19	Length, with Std. Forks	11				1905	1905
	4.21	Width, at Tyre		b1 mm			1080	1080
SU	4.22	Forks	s/e/l	Thickness/Width/Le	enath	mm	35x100x850	35x100x850
hi	4.23	Fork Carriage Class		328, Type A/B/no	ongar		Pin Mount	Pin Mount
Dimenshions	4.24	Width, Fork Carriage	b3	I		mm	750	750
me	4.26	Width, Fork Carriage Width, between Reach Legs	b4			mm	752	752
Ö	4.28	Reach Travel	14	mm			440	580
	4.31	neach haver		n1 under the Mast mm			75	75
	4.31	Ground Clearance		m2 at the center of Wheelbase mm			80	80
		Dialet Assals Otsalsiss					2275	2310
	4.33	Right Angle Stacking	Ast	·				
	4.34	Aisle	Ast	With L1200 x W800	pallet		2340	2355
	4.35.1	Turning Radius	Wa			mm	1325	1465
	4.35.2		Wb	b mm			670	555
\vdash	4.37	Length, without Forks	/7	L		, .	1470	1610
	5.1	Travel Speed (FWD)		d/Unloaded		km/h	9.5/10.5	9.5/10.5
	5.2	Lifting Speed		d/Unloaded		mm/s	350/540	320/540
ce	5.3	Lowering Speed		d/Unloaded		mm/s	500/550	460/550
an	5.4	Reach Speed	_	d/Unloaded		mm/s	300/300	300/300
Performan	5.6	Max. Drawbar Pull		3min rating N			6080	6080
erfc	5.8	Max. Gradeability		ded 1.5km/h, 3min ra	ating	%	32	32
هّ	5.10	Service Brake	Opera	tion/Control			Mechanical, Disc	Mechanical, Disc
	5.11	Parking Brake	Opera	tion/Control			Mechanical, Disc	Mechanical, Disc
L	5.12	Steering	Opera	Operation/Control			Electric Power Steering	Electric Power Steering
	6.1	Drive Motor (AC)	60min	rating		kW	4.5	4.5
	6.2	Pump Motor (AC)	5min ı	ating		kW	9.0	9.0
	6.2.1	PS Motor (DC)	60min	60min rating			0.3	0.3
Drive	6.4	Battery Voltage	İ	-		V	48	48
Ω	6.4.1	Battery Capacity, Min.		Ah/5-			201	201
	6.4.2	Battery Capacity, Max.	1			Ah/5-hour	240	240
	6.5	Battery Weight, Min. Capacity	1			kg	365	365
\vdash	8.1	Drive Motor Control				1,9	MOS-FET inverter	MOS-FET inverter
[,	8.1.1	Pump Motor Control	†				MOS-FET inverter	MOS-FET inverter
Others	8.1.2	PS Motor Control					MOS-FET chopper	MOS-FET chopper
g	8.2	Relief Pressure for Attachment		hau			167	167
	8.2.1	Hydraulic Tank Capacity	bar Ltr			16	16	
	0.2.1	r ryuraunc rank Capacity	Ltr				10	10

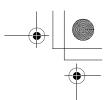
^{4.33} and 4.34 Values are not including a cliearance. See Aisle width section for detail

10-4







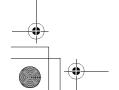


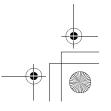
GENERAL AND SPECIFICATIONS

SPECIFICATION

	1.2	Model	Manuf	acturer's Designation	n	FB15RW-14	
	1.3	Power Type	Electric, Diesel, Gasoline, LPG, Cable			Electric	
Characteristics	1.4	Operation Type		Pedestrian, Driver Standing, Sitting, Order Picking			Standing
rist	1.5	Rated Capacity	Q1				1500
cte	1.6	Load Center	C			mm	500
ara					Land Onetan		
اج ا	1.6.1	Alternative Capacity	Q2	Capacity@600mm		kg	1300
	1.8	Load Distance	х	Front Axle Center	to Fork Face	mm	175
\vdash	1.9	Wheelbase	у			mm	1350
1	2.1	Service Weight	Includ	ing Min. Capacity Ba		kg	2220
	2.4		 Loade	d	Front	kg	3250
	2.4.1	Axle Loading Mast/Forks	Rear kg Unloaded Front kg				470
ı≢	2.4.2	Extended				kg	955
Weight	2.4.3		Omouded		Rear	kg	1265
>	2.5		Loade	d	Front	kg	2365
	2.5.1	Axle Loading Mast/Forks	Loade	u	Rear	kg	1355
	2.5.2	Retracted	Liniaa	dod	Front	kg	720
	2.5.3		Unloa	ueu	Rear	kg	1500
\vdash	3.1	Tyre Type			!		Solid
	3.2		Front				φ254 x 114
	3.3	Tyre Size	Rear				φ 330 x 145
Tyre	3.4	.,		onal Wheels			φ 150 x 80
F	3.5	Number of Wheel		Rear(*=driven)			ψ 160 X 60 2/1*+2
	3.6	Tread, Front	b10			mm	975
1	3.7	Tread, Rear	b11				-
\vdash	4.1	Tilting Angle	α/β	Forward/Backward		mm degree	- 3/5
1			<u> </u>				
1	4.2	Mast Height, Lowered	h1	with Std. Mast		mm	1995
1	4.3	Std. Free Lift	h2	with Std. Mast, fron		mm	105
1	4.4	Std. Lift Height	h3	with Std. Mast, fron	n Ground	mm	3000
1	4.5	Mast Height, Extended	h4	with Std. Mast		mm	3935
	4.7	Height, Overhead Guard		h6 mm			2250
	4.19	Length, with Std. Forks	11				2005
1.	4.21	Width, at Tyre	b1 mm			1080	
Sus	4.22	Forks	s/e/l	Thickness/Width/Le	ength	mm	35x100x850
Dimenshions	4.23	Fork Carriage Class	ISO 23	328, Type A/B/no			Pin Mount
len	4.24	Width, Fork Carriage	b3				750
 ≒	4.26	Width, between Reach Legs	b4			mm	752
-	4.28	Reach Travel	14			mm	580
	4.31	0 101	m1	under the Mast		mm	75
	4.32	Ground Clearance	m2	at the center of Wh	eelbase	mm	80
	4.33	Right Angle Stacking	Ast	with L1000 x W120		mm	2405
	4.34	Aisle	Ast	with L1200 x W800		mm	2450
		Turning Radius	Wa	a mm			1560
	4.35.2		Wb	mm			555
		Length, without Forks	/7				1710
\vdash		Travel Speed (FWD)		L d/Unloaded		km/h	9.5/10.5
	5.2	Lifting Speed		d/Unloaded		mm/s	320/540
	5.3	Lowering Speed				mm/s	460/550
၂၁	5.4	Reach Speed					300/300
Performance	5.6	Max. Drawbar Pull					6080
for				3min rating N Unloaded 1.5km/h, 3min rating %			29
Pen	5.8	Max. Gradeability		<u> </u>	auny	%	
	5.10	Service Brake	•	tion/Control			Mechanical, Disc
1		Parking Brake		tion/Control			Mechanical, Disc
\vdash	5.12	Steering		Operation/Control			Electric Power Steering
	6.1	Drive Motor (AC)		60min rating kW			4.5
	6.2	Pump Motor (AC)		5min rating kW			9.0
0	6.2.1	PS Motor (DC)	60min	60min rating kW			0.3
Drive	6.4	Battery Voltage		V			48
		Battery Capacity, Min.		Ah/5-hour			280
	6.4.2	Battery Capacity, Max.		Ah/5-hour			390
	6.5	Battery Weight, Min. Capacity		kg			495
	8.1	Drive Motor Control					MOS-FET inverter
ဖွ	8.1.1	Pump Motor Control					MOS-FET inverter
Others	8.1.2	PS Motor Control					MOS-FET chopper
Įŏ į	8.2	Relief Pressure for Attachment		bar			167
	8.2.1	Hydraulic Tank Capacity					16
$\overline{}$						Ltr	

^{4.33} and 4.34 Values are not including a cliearance. See Aisle width section for detail

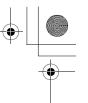




AR50 Series 10-5

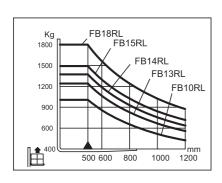
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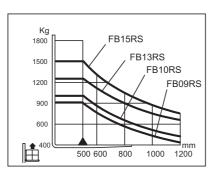


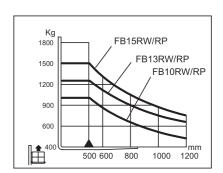


SPECIFICATION

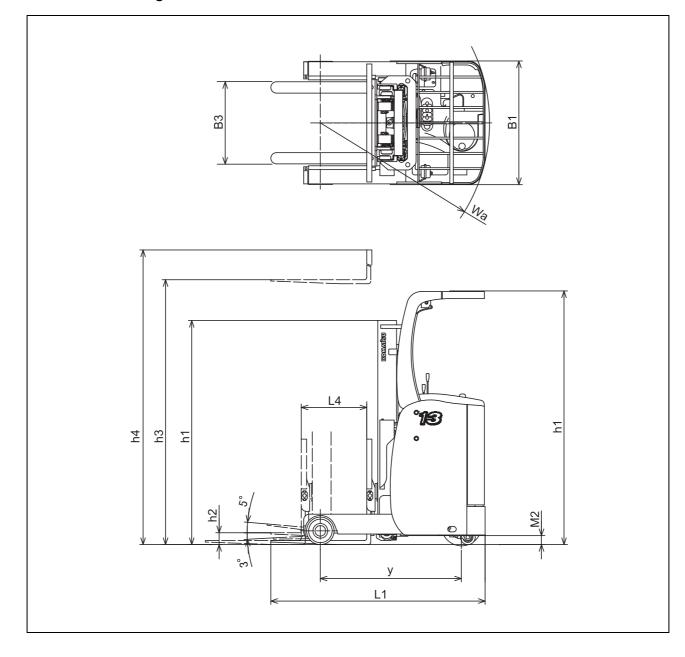
2. Allowable Load Table

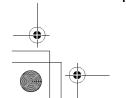


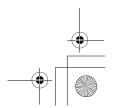




3. Dimension Diagram







10-6 AR50 Series