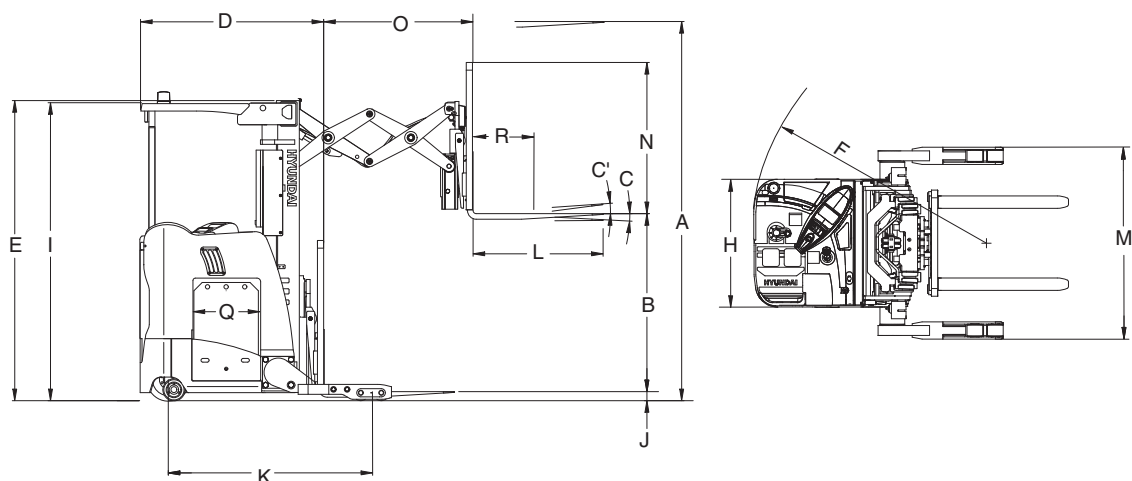


8. SPECIFICATIONS

1. SPECIFICATION

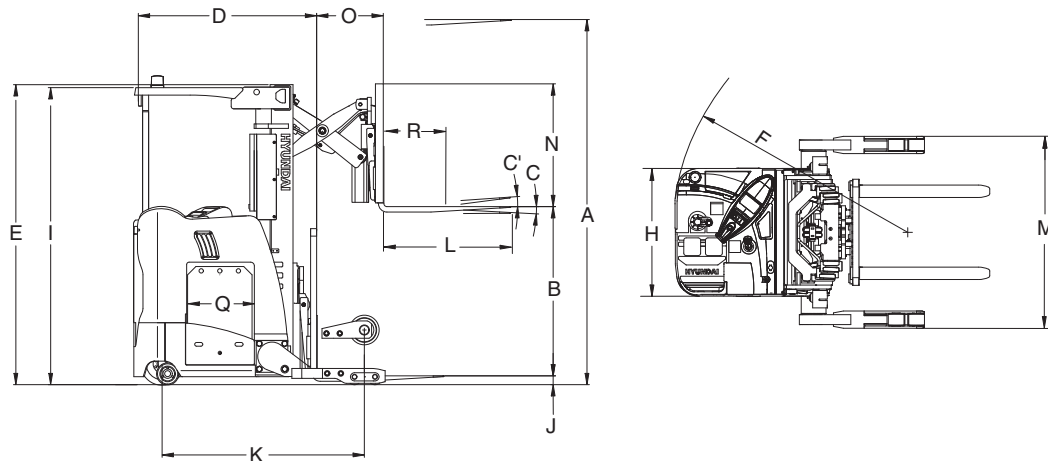
1) 15BRP-9



15BRP9SP01

Model			Unit	15BRP-9
Capacity			kg (lb)	1361 (3000)
Load center		R	mm (in)	610 (24)
Weight (With battery)			kg (lb)	3983 (8780)
Fork	Lifting height	A	mm (ft-in)	5335 (17' 6")
	Free lift (Without backrest)	B	mm (ft-in)	1196 (3' 11")
	Lifting speed (Unload/load)		mm/sec	450/320
	Lowering speed (Unload/load)		mm/sec	450/500
	L × W × T	L,W,T	mm (in)	1050 × 100 × 40 (41.3 × 3.9 × 1.6)
Mast	Tilt angle (Forward/backward)	C/C'	degree	3/4
	Max height		mm (ft-in)	6554 (21' 6")
	Min height	E	mm (ft-in)	2415 (7' 11")
	Backrest height	N	mm (ft-in)	1219 (4' 0")
Performance	Travel speed (Unload, load)		km/h	12
	Min turning radius (STD battery)	F	mm (ft-in)	1856 (6' 1")
Battery	Capacity		V-Ah	36/1085
	Weight (STD)		kg (lb)	1034 (2280)
	Length	Q	mm (in)	457 (18")
Length to fork face		D	mm (ft-in)	1562 (5' 1")
Width (Frame)		H	mm (ft-in)	1030 (3' 5")
Overhead guard height		I	mm (ft-in)	2395 (7' 10")
Ground clearance (Load wheels)		J	mm (in)	51 (2")
Wheel base (STD battery)		K	mm (ft-in)	1605 (5' 3")
Outrigger width (Outside)		M	mm (ft-in)	1345 (4' 5")
Reach stroke		O	mm (ft-in)	1087 (3' 7")

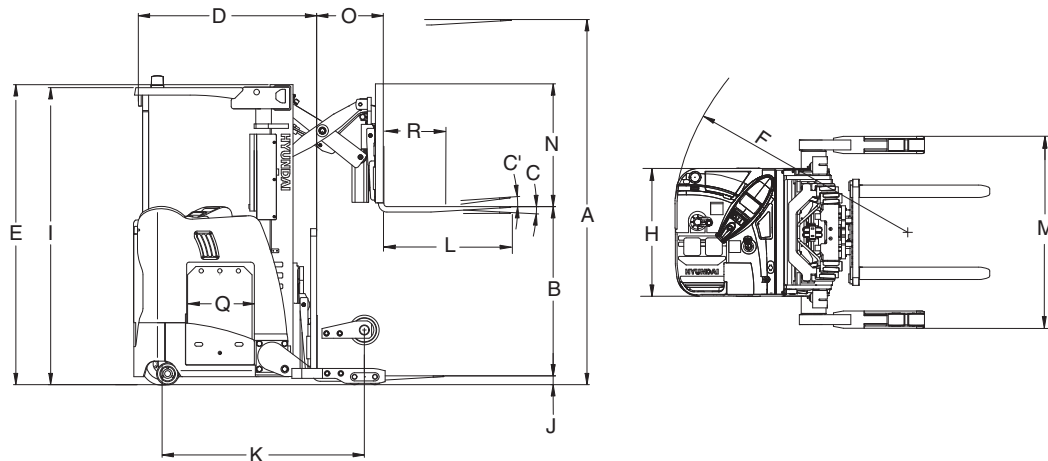
2) 18/20BRP-9



15BRP9SP02

Model			Unit	18BRP-9	20BRP-9
Capacity			kg (lb)	1588 (3500)	1814 (4000)
Load center		R	mm (in)	610 (24")	←
Weight (With battery)			kg (lb)	3360 (7410)	3505 (10' 10")
Fork	Lifting height	A	mm (ft-in)	5335 (17' 6")	←
	Free lift (Without backrest)	B	mm (ft-in)	1196 (3'11")	←
	Lifting speed (Unload/load)		mm/sec	450/310	460/290
	Lowering speed (Unload/load)		mm/sec	450/500	←
	L × W × T	L,W,T	mm (in)	1050 × 100 × 40 (41.3 × 3.9 × 1.6)	1050 × 100 × 45 (41.3 × 3.9 × 1.8)
Mast	Tilt angle (Forward/backward)	C/C'	degree	3/4	←
	Max height		mm (ft-in)	6554 (21' 6")	←
	Min height	E	mm (ft-in)	2415 (7' 11")	←
	Backrest height	N	mm (ft-in)	1219 (4' 0")	←
Performance	Travel speed (Unload, load)		km/h	12	←
	Min turning radius (STD battery)	F	mm (ft-in)	1655 (5' 5")	1704 (5' 7")
Battery	Capacity		V-Ah	36/775	36/930
	Weight (STD)		kg (lb)	725 (1600)	852 (1880)
	Length	Q	mm (in)	362 (14.3")	413 (16.3")
Length to fork face		D	mm (ft-in)	1276 (4' 2")	1327 (4' 4")
Width (Frame)		H	mm (ft-in)	1030 (3' 4")	←
Overhead guard height		I	mm (ft-in)	2395 (7' 10")	←
Ground clearance (Load wheels)		J	mm (in)	51 (2")	←
Wheel base (STD battery)		K	mm (ft-in)	1399 (4' 7")	1450 (4' 9")
Outtrigger width (Outside)		M	mm (ft-in)	1345 (4' 5")	←
Reach stroke		O	mm (ft-in)	592 (1' 11")	←

3) 23BRP-9



15BRP9SP02

Model			Unit	23BRP-9
Capacity			kg (lb)	2041 (4500)
Load center		R	mm (in)	610 (24)
Weight (With battery)			kg (lb)	3901 (8600)
Fork	Lifting height	A	mm (ft-in)	5335 (17' 6")
	Free lift (Without backrest)	B	mm (ft-in)	1196 (3' 11")
	Lifting speed (Unload/load)		mm/sec	460/270
	Lowering speed (Unload/load)		mm/sec	450/500
	L × W × T	L, W, T	mm (in)	1050 × 100 × 45 (41.3 × 3.9 × 1.8)
Mast	Tilt angle (Forward/backward)	C/C'	degree	3/4
	Max height		mm (ft-in)	6554 (21' 6")
	Min height	E	mm (ft-in)	2415 (7' 11")
	Backrest height	N	mm (ft-in)	1219 (4' 0")
Performance	Travel speed (Unload, load)		km/h	12
	Min turning radius (STD battery)	F	mm (ft-in)	1817 (6' 0")
Battery	Capacity		V-Ah	36/1085
	Weight (STD)		kg (lb)	1034 (2280)
	Length	Q	mm (in)	457 (18")
Length to fork face		D	mm (ft-in)	1415 (4' 8")
Width (Frame)		H	mm (ft-in)	1030 (3' 5")
Overhead guard height		I	mm (ft-in)	2395 (7' 10")
Ground clearance (Load wheels)		J	mm (in)	51 (2")
Wheel base (STD battery)		K	mm (ft-in)	1565 (5' 2")
Outrigger width (Outside)		M	mm (ft-in)	1345 (4' 5")
Reach stroke		O	mm (ft-in)	592 (1' 11")

2. SPECIFICATION FOR MAJOR COMPONENTS

1) CONTROLLER

Item	Unit	Drive pump motor controller	EPS motor controller	Fingertip controller
Model	-	AC-2	EPS-AC0	Mhyrio CB
Type	-	MOSFET	←	←
Dimension	mm	200×250×147.5	180×144×64.8	197×82×73
Current limit	A	450/500	45A	2A
Communication	-	CAN	←	←

2) MOTOR

Item	Unit	Traction	Pump	EPS
Model	-	AMBL4002	AMBN4001	G104247A
Type	-	AC	AC	AC
Rated voltage	Vac	24	24	23
Output	kW	6.8	16	0.4
Insulation	-	Class F	Class F	Class H

3) GEAR PUMP

Item	Unit	Specification
Type	-	Fixed displacement gear pump
Displacement	cc/rev	19.6
Maximum operating pressure	bar	210
Rated speed (max/min)	rpm	3000/500

4) MAIN CONTROL VALVE

Item	Unit	Specification
Type	-	2 spool
Operating method	-	Proportional
Main relief valve pressure	bar	180

5) DRIVE UNIT

Item	Unit	Specification
Gear ratio	-	20.2
Oil Quantity	l	3.3

6) WHEELS

Item	15BRP-9	18/20/23BRP-9
Type (Load/drive/caster)	Polyurethan	←
Quantity (Load/drive/caster)	4 (2) / 1/2	-
Load wheel (5" STD / 10.5" Option)	ø 127 × 100	ø 127 × 100 / ø 267 × 100
Drive wheel	ø 345 × 140	←
Caster wheel	ø 178 × 73	←

7) BRAKES

Item	Specification
Brakes (Service)	Service : Drive motor, electromagnetic brake

8) BATTERY

Battery type	Battery compartment size (length)		Battery voltage	Capacity (6 hour rate)	Battery dimensions						Battery weight	
					Width (W)		Length (L)		Height (H)		Min. weight	
	mm	in			Volt	Ah	mm	in	mm	in	mm	in
Type A	362	14.3	36	775	975	38.4	355	14.0	787	31.0	725	1598
Type B	413	16.3	36	930	975	38.4	406	16.0	787	31.0	852	1878
Type C	457	18.0	36	1085	975	38.4	450	17.7	787	31.0	1034	2280
Type D	527	20.7	36	1240	975	38.4	520	20.5	787	31.0	1180	2601

* Standard : 15/23BRP - C type, 18BRP - A type, 20BRP - B type

9) LOAD TIRE OPTION

Mast type	15BRP-9		18BRP-9		20BRP-9		23BRP-9	
	ø 5×4" (ø 127×101 mm)	ø 10.5×4" (ø 267×101 mm)	ø 5×4" (ø 127×101 mm)	ø 10.5×4" (ø 267×101 mm)	ø 5×4" (ø 127×101 mm)	ø 10.5×4" (ø 267×101 mm)	ø 5×4" (ø 127×101 mm)	ø 10.5×4" (ø 267×101 mm)
TF500	●	×	●	●	●	●	●	●
TF530	●	×	●	●	●	●	●	●
TF610	●	×	●	●	●	●	●	●
TF685	●	×	●	●	●	●	●	●
TF760	●	×	×	×	●	×	●	●
TF815	●	×	×	×	●	×	●	●
TF865	●	×	×	×	×	×	●	×
TF930	●	×	×	×	×	×	●	×
TF1010	●	×	×	×	×	×	●	×

3. TIGHTENING TORQUE

1) 15/18/20/23BRP-9

NO	Items		Size	kgf·m	lbf·ft
1	Electric system	Hyd pump motor mounting bolt	M10 × 1.5	5.0 ± 0.5	36 ± 3.6
2		Traction motor mounting bolt	M 8 × 1.25	7.0 ± 1.0	50.6 ± 7.2
3		EPS motor mounting bolt	M10 × 1.5	3.5 ± 0.5	25.3 ± 3.6
4		Electric brake mounting bolt	M 8 × 1.25	4.0 ± 0.8	28.9 ± 5.8
5	Hydraulic system	Hydraulic pump mounting bolt	M10 × 1.5	5 ± 0.5	36 ± 3.6
6		MCV mounting bolt, nut	M 8 × 1.25	2.5 ± 0.5	18.1 ± 3.6
7		Hydraulic oil tank mounting bolt	M 8 × 1.25	2.5 ± 0.5	18.1 ± 3.6
8	Power train system	Drive unit mounting bolt	M12 × 1.75	14.3 ± 1.0	103 ± 7
9		Load wheels mounting bolt	M20 × 1.5	47 ± 5	340 ± 36.2
10		Drive wheel mounting nut	M14 × 1.5	15.7 ± 2.3	114 ± 16.6
11	Other	Seat mounting bolt	M 8 × 1.25	2.5 ± 0.5	18.1 ± 3.6
12		Head guard mounting bolt	M12 × 1.75	12.8 ± 3.0	93 ± 22
13			M16 × 2	29 ± 4	210 ± 29.0
14		Mast mounting bolt, nut	M20 × 1.5	62.8 ± 9	455 ± 65.2
15			M22 × 1.5	83.2 ± 12.5	603 ± 90.6
16		Outrigger mounting bolt	M27 × 3	120 ± 12	868 ± 87