Technical sheet :

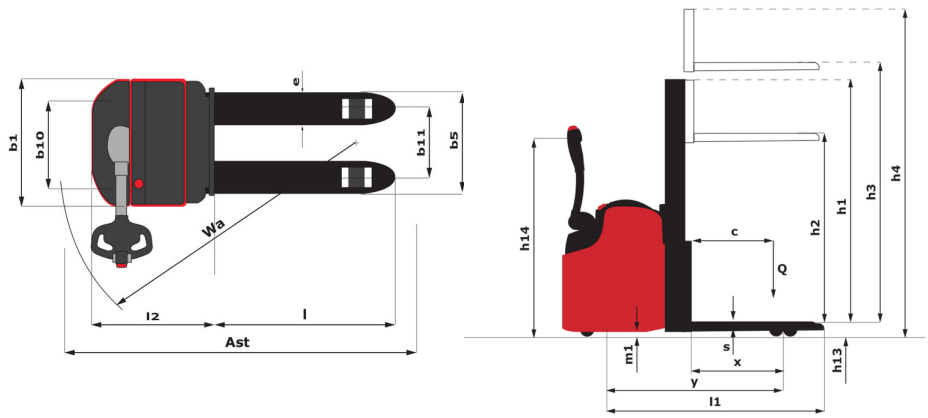
ES 820



MANITOU
HANDLING YOUR WORLD

	Technical characteristics		Metric	Imperial
1.1	Manufacturer		Manitou	Manitou
1.2	Model Name		ES 820 FR	ES 820 FR
1.3	Power source		Electrical	Electrical
1.4	Operator type		Pedestrian	Pedestrian
1.5	Max. capacity	Q	2000 kg	4409 lb
1.6	Load center of gravity	c	600 mm	24 in
1.8	Distance from Load backrest to center of rear axle	x	661 mm	26 in
1.9	Wheelbase	y	1378 mm	54 in
	Weight			
2.1	Service weight		1620 kg	3571 lb
2.2	Weight on front axle (laden) / rear axle (laden)		1180 kg / 2510 kg	2601 lb / 5534 lb
2.3	Weight on front axle (Unladen) / rear axle (Unladen)		1125 kg / 495 kg	2480 lb / 1091 lb
	Wheels			
3.1	Tires type		Polyurethane	Polyurethane
3.3	Number of load wheels / Size of load wheels		2 / 82x68	2 / 82x68
3.4	Number of stabilizer wheels / Size of the stabilizer wheels		2 / 120x50	2 / 120x50
3.5	Number of front wheels / rear wheels		3 / 4	3 / 4
3.5.2	Number of drive wheels / Size of drive wheels		1/254x100	1/254x100
3.6	Front wheel gauge	b10	664 mm	26 in
3.7	Rear wheel gauge	b11	393 mm	15 in
	Dimensions			
4.15	Fork height in low position	h13	85 mm	3 in
4.19	Overall length	l1	2048 mm	81 in
4.20	Length to face of forks	l2	898 mm	35 in
4.21	Overall width	b1	890 mm	35 in
4.22	Forks section / width / length	s / e / l	70 mm / 200 mm / 1150 mm	3 in / 8 in / 45 in
4.24	Fork carriage width	b3	700 m	2296 ft 7 in
4.31	Ground clearance below mast	m1	30 mm	1 in
4.32	Ground clearance at centre of wheelbase	m2	21 mm	0.83 in
4.35	Turning radius	Wa	1591 mm	63 in
4.9	Height tiller min. / max.	h14 / h14	975 mm / 1375 mm	38 in / 54 in
	Performances			
5.1	Travel speed (laden / unladen)		6 km/h / 6 km/h	4 mph / 4 mph
5.2	Lifting speed (laden / unladen)		0.11 m/s / 0.20 m/s	0.36 ft/s / 0.66 ft/s
5.3	Lowering speed (laden / unladen)		0.22 m/s / 0.21 m/s	0.72 ft/s / 0.69 ft/s
5.8	Max Gradeability (laden / unladen)		6 % / 10 %	6 % / 10 %
5.10	Service brake		Electro magnetic	Electro magnetic
	Engine			
6.1	Drive motor rating S2 60 min		2 kW	2 kW
6.2	Lift motor rating at S3 15%		4 kW	4 kW
6.3	Battery according to DIN 43531/35/36 A, B, C		Traction	Traction
6.4	Battery voltage / capacity		24 V / 315 Ah	24 V / 315 Ah
6.5	Battery weight (+/- 5%)		275 kg	606 lb
	Miscellaneous			
8.1	Type of drive control		AC	AC
8.4	Sound level at the driver's ear according to DIN 12 053		65 dB	65 dB

ES 820 - Dimensional drawing



Characteristics of masts and residual capacities

Central Cylinder Duplex (CCD)		FVD 29	FVD 34
h1 - Mast lowered height	in (mm)	76.4 (1940)	86.2 (2190)
h3 - Mast lifting height	in (mm)	115.7 (2940)	135.4 (3440)
h4 - Mast extended height	in (mm)	132.5 (3365)	152.2 (3865)
Residual capacity at max height	lb (kg)	3527 (1600)	2866 (1300)

Central Cylinder Simplex (CCS)		CCS 15	CCS 17
h1 - Mast lowered height	in (mm)	76.4 (1940)	86.2 (2190)
h2 - Mast free lift	in (mm)	59.4 (1510)	69.3 (1760)
h3 - Mast lifting height	in (mm)	59.4 (1510)	69.3 (1760)
h4 - Mast extended height	in (mm)	76.4 (1940)	86.2 (2190)
Residual capacity at max height	lb (kg)	4409 (2000)	4409 (2000)

Free Lift Duplex (FLD)		FLD 29	FLD 34
h1 - Mast lowered height	in (mm)	76.4 (1940)	86.2 (2190)
h2 - Mast free lift	in (mm)	59.4 (1510)	69.3 (1760)
h3 - Mast lifting height	in (mm)	115.6 (2935)	135.2 (3435)
h4 - Mast extended height	in (mm)	132.5 (3365)	152.2 (3865)
Residual capacity at max height	lb (kg)	3527 (1600)	2866 (1300)

Free Lift Triplex (FLT)		FLT 42	FLT 47	FLT 54
h1 - Mast lowered height	in (mm)	74.8 (1900)	81.1 (2060)	90.6 (2300)
h2 - Mast free lift	in (mm)	57.7 (1465)	64 (1625)	73.8 (1875)
h3 - Mast lifting height	in (mm)	167.1 (4245)	186 (4725)	214.8 (5455)
h4 - Mast extended height	in (mm)	185.4 (4710)	204.3 (5190)	231.5 (5880)
Residual capacity at max height	lb (kg)	1653 (750)	1213 (550)	992 (450)

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