

Technical sheet :

ES 412



	Technical characteristics		Metric
1.1	Manufacturer		Manitou
1.2	Model Name		ES 412
1.3	Power source		Battery
1.4	Operator type		Pedestrian
1.5	Max. capacity	Q	1200 kg
1.6	Load centre of gravity	c	600 mm
1.8	Distance from Load backrest to center of rear axle	x	683 m
1.9	Wheelbase	y	1245 mm
	Weight		
2.1	Service weight		874 kg
2.2	Weight on front axle (laden) / rear axle (laden)		729 kg / 1342 kg
2.3	Weight on front axle (Unladen) / rear axle (Unladen)		612 kg / 262 kg
	Wheels		
3.1	Tyres type		Polyurethane
3.5.2	Number of drive wheels / Size of drive wheels		1x230x70
3.3	Number of load wheels / Size of load wheels		2 / 82x70
3.4	Number of stabilizer wheels / Size of the stabilizer wheels		1 / 125x50
3.5	Number of front wheels / rear wheels		2 / 2
3.6	Front wheel gauge	b10	517 mm
3.7	Rear wheel gauge	b11	380 mm
	Dimensions		
4.15	Fork height in low position	h13	85 mm
4.19	Overall length	l1	1870 mm
4.20	Length to face of forks	l2	720 mm
4.21	Overall width	b1	800 mm
4.22	Forks section / width / length	s / e / l	60 mm / 180 mm / 1150 mm
4.24	Fork carriage width	b3	680 m
4.31	Ground clearance below mast	m1	35 m
4.32	Ground clearance at centre of wheelbase	m2	20 m
4.35	Turning radius	Wa	1400 mm
	Performances		
5.1	Travel speed (laden / unladen)		6 km/h / 6 km/h
5.2	Lifting speed (laden / unladen)		0.12 m/s / 0.24 m/s
5.3	Lowering speed (laden / unladen)		0.30 m/s / 0.20 m/s
5.10	Service brake		Electro magnetic
	Engine		
6.1	Drive motor rating S2 60 min		1.20 kW
6.2	Lift motor rating at S3 15%		3 kW
6.4	Battery / Batteries capacity		24 V / 180 Ah
6.5	Battery weight (+/- 5%)		160 kg
	Miscellaneous		
8.1	Type of drive control		AC
8.4	Sound level at the driver's ear according to DIN 12 053		65 dB(A)

ES 412 - Dimensional drawing



Characteristics of masts and residual capacities

Full Visibility Duplex		FVD 29	FVD 34	FVD 38
h3 - Mast lifting height *	mm	2940	2940	2940
h1 - Mast height lowered	mm	1940	1940	1940
h4 - Mast height extended	mm	3365000	3365000	3365000
Residual capacity without attachment (Industrial load chart)	kg	1200	1000	800

Free Lift Duplex		FLD 29	FLD 34
h3 - Mast lifting height *	mm	2940	2940
h1 - Mast height lowered	mm	1940	1940
h4 - Mast height extended	mm	3365000	3365000
Residual capacity without attachment (Industrial load chart)	kg	1200	950

Free Lift Triplex		FLT 42
h3 - Mast lifting height *	mm	2940
h1 - Mast height lowered	mm	1940
h4 - Mast height extended	mm	3365000
Residual capacity without attachment (Industrial load chart)	kg	650



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