Technical sheet:

ES 412





		ES 412 Cleate	ES 412 Greated off November 30, 2023 at 4.43 PW OTC	
	Technical characteristics		Metric	
1.1	Manufacturer		Manitou	
1.2	Model Name		ES 412	
1.3	Power source		Electrical - Lead	
1.4	Operator type		Pedestrian	
1.5	Max. capacity	Q	1200 kg	
1.6	Load center of gravity	С	600 mm	
1.8	Distance from Load backrest to center of rear axle	х	683 mm	
1.9	Wheelbase	у	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	Tires type		Polyurethane cushion	
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	
3.5.2	Number of drive wheels / Size of drive wheels		1/230x70	
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	I1	1870 mm	
4.20	Length to face of forks	12	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 mm	
4.31	Ground clearance below mast	m1	35 mm	
4.32	Ground clearance at centre of wheelbase	m2	20 mm	
4.33	Aisle Width for pallets 1000 x 1200 crossways	Ast	2581 mm	
4.34	Aisle width for 800 x 1200 pallet lengthways	Ast	2490 mm	
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	
5.8	Max Gradeability (laden / unladen)		8 % / 10 %	
5.10	Service brake		Electro magnetic	
	Engine			
6.1	Drive motor rating \$2 60 min		1.20 kW	
6.2	Lift motor rating at S3 15%		3 kW	
6.4	Battery voltage / 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	

Characteristics of masts and residual capacities

Full Visibility Duplex (FVD)		FVD 29	FVD 34	FVD 38
h1 - Mast lowered height	mm	1940	2190	2390
h3 - Mast lifting height	mm	2940	3440	3840
h4 - Mast extended height	mm	3365	3865	4265
Residual capacity at max height	kg	1200	1000	800
Free Lift Duplex (FLD)		FLD 29	FLD 34	
h1 - Mast lowered height	mm	1940	2190	
h2 - Mast free lift	mm	1510	1760	
h3 - Mast lifting height	mm	2935	3435	
h4 - Mast extended height	mm	3365	3865	
Residual capacity at max height	kg	1200	1000	
Free Lift Triplex (FLT)		FLT 42		
h1 - Mast lowered height	mm	1965		
h2 - Mast free lift	mm	1470		
h3 - Mast lifting height	mm	4240		
h4 - Mast extended height	mm	4735		
Residual capacity at max height	kg	650		





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