Technical sheet :







Technical characteristics         Manufacturer         Model Name         Power source         Operator type         Max. capacity         Load center of gravity         Distance from Load backrest to center of rear axle         Wheelbase         Weight         Service weight         Weight on front axle (laden) / rear axle (Unladen)         Wheelbase         Wheelbase         Wheels         Tires type         Number of toad wheels / Size of load wheels         Number of food wheels / Size of food wheels         Number of toad wheels / Size of drive wheels         Number of toad wheels / Size of drive wheels         Number of toad wheels / Size of drive wheels         Number of toad wheels / Size of drive wheels         Number of toad wheels / Size of drive wheels         Number of toad wheels / Size of drive wheels         Point wheel gauge         Dimensions         Fook height in low position         Overall width         Fork section / width / length         Fork section / width / length         Fork section / width / length         Fork carriage width         Ground clearance below mast         Ground clearance at centre of wheelbase<	
Model Name         Power source         Operator type         Max. capacity         Load center of gravity         Distance from Load backrest to center of rear axle         Wheelbase         Weight         Service weight         Weight on front axle (laden) / rear axle (Unladen)         Wheelbase         Wheelbase         Weight on front axle (Unladen) / rear axle (Unladen)         Wheels         Tires type         Number of load wheels / Size of load wheels         Number of fort wheels / Size of load wheels         Number of fort wheels / Size of drive wheels         Number of drive wheels / Size of drive wheels         Front wheel gauge         Dimensions         Fork height in low position         Overall width         Fork section / width / length         Fork carriage width         Ground clearance below mast         Ground clearance tenter of wheelbase         Turning radius         Performances         Tarwel speed (laden / unladen)         Max Gradeability (laden / unladen)         Max Gradea	Technical characteristics
Power source         Operator type         Max. capacity         Load center of gravity         Distance from Load backrest to center of rear axle         Wheelbase         Weight         Service weight         Weight on front axle (laden) / rear axle (laden)         Wheelbase         Wheel         Tires type         Number of load wheels / Size of load wheels         Number of stabilizer wheels / Size of the stabilizer wheels         Number of drive wheels / Size of drive wheels         Front wheel gauge         Dimensions         Fork height in low position         Overall length         Length to face of forks         Overall width         Fork section / width / length         Fork carriage width         Ground clearance below mast         Ground clearance dicting wheelbase         Turning radius         Performances         Travel speed (laden / unladen)         Lifting speed (laden / unladen)         Lift motor rating at S3 15%         Battery weight (+/- 5%)	Manufacturer
Operator type         Max. capacity         Load center of gravity         Distance from Load backrest to center of rear axle         Wheelbase         Weight         Service weight         Weight on front axle (laden) / rear axle (laden)         Weight on front axle (Unladen) / rear axle (Unladen)         Wheels         Tires type         Number of load wheels / Size of load wheels         Number of stabilizer wheels / Size of load wheels         Number of tront wheels / rear wheels         Number of drive wheels / Size of drive wheels         Front wheel gauge         Port wheel gauge         Dimensions         Fork height in low position         Overall width         Forks section / width / length         Fork section / width / length         Fork section / width / length         Fork areige width         Ground clearance below mast         Ground clearance di (aden / unladen)         Liffing speed (laden / unladen)         Liffing speed (laden / unladen)         Service brake         Engine         Drive motor rating \$260 min         Liff motor rating \$250 min         Liff motor rating \$250 min         Liff motor rating \$250 min	Model Name
Max. capacity         Load center of gravity         Distance from Load backrest to center of rear axle         Whelbase         Weight         Service weight         Weight on front axle (laden) / rear axle (laden)         Wheels         Tires type         Number of load wheels / Size of load wheels         Number of stabilizer wheels / Size of load wheels         Number of tront wheels / rear wheels         Number of drive wheels / Size of drive wheels         Front wheel gauge         Rear wheel gauge         Dimensions         Fork height in low position         Overall width         Fork section / width / length	Power source
Load center of gravity Distance from Load backrest to center of rear axle Wheelbase Weight Service weight Weight on front axle (laden) / rear axle (laden) Weight on front axle (laden) / rear axle (unladen) Wheels Tires type Number of load wheels / Size of load wheels Number of stabilizer wheels / Size of the stabilizer wheels Number of stabilizer wheels / Size of the stabilizer wheels Number of drive wheels / Size of drive wheels Front wheel gauge Dimensions Fork height in low position Overall length Length to face of forks Overall width Fork section / width / length Fork carniage width Ground clearance at centre of wheelbase Turming radius Performances Travel speed (laden / unladen) Lifting speed (laden / unladen) Service brake Engine Dive motor rating \$2 60 min Lift motor rating \$2 55% Battery voltage / capacity Battery weight (+/- 5%)	Operator type
Distance from Load backrest to center of rear axle Wheelbase Weight Service weight Weight on front axle (laden) / rear axle (laden) Weight on front axle (Unladen) / rear axle (Unladen) Wheels Tires type Number of load wheels / Size of load wheels Number of stabilizer wheels / Size of the stabilizer wheels Number of front wheels / Size of the stabilizer wheels Number of front wheels / Size of drive wheels Front wheel gauge Dimensions Fork height in low position Overall length Length to face of forks Overall width Fork section / width / length Fork carriage width Ground clearance below mast Ground clearance at centre of wheelbase Turwing radius Perfomances Tavel speed (laden / unladen) Lifting speed (laden / unladen) Max Gradeability (laden / unladen) Service brake Engine Drive motor rating S2 60 min Lift motor rating S2 60 min Lift motor rating S2 60 min Lift motor rating S3 15% Battery voltage / capacity Battery weight (+/- 5%)	Max. capacity
Distance from Load backrest to center of rear axle Wheelbase Weight Service weight Weight on front axle (laden) / rear axle (laden) Weight on front axle (Unladen) / rear axle (Unladen) Wheels Tires type Number of load wheels / Size of load wheels Number of stabilizer wheels / Size of the stabilizer wheels Number of front wheels / Size of the stabilizer wheels Number of front wheels / Size of drive wheels Front wheel gauge Dimensions Fork height in low position Overall length Length to face of forks Overall width Fork section / width / length Fork carriage width Ground clearance below mast Ground clearance at centre of wheelbase Turwing radius Perfomances Tavel speed (laden / unladen) Lifting speed (laden / unladen) Max Gradeability (laden / unladen) Service brake Engine Drive motor rating S2 60 min Lift motor rating S2 60 min Lift motor rating S2 60 min Lift motor rating S3 15% Battery voltage / capacity Battery weight (+/- 5%)	Load center of gravity
Weight           Service weight           Weight on front axle (laden) / rear axle (laden)           Weight on front axle (Unladen) / rear axle (Unladen)           Wheels           Tires type           Number of load wheels / Size of load wheels           Number of stabilizer wheels / Size of the stabilizer wheels           Number of front wheels / rear wheels           Number of drive wheels / Size of drive wheels           Front wheel gauge           Dimensions           Fork height in low position           Overall width           Porkes section / width / length           Fork carriage width           Ground clearance below mast           Ground clearance at centre of wheelbase           Turning radius           Performances           Travel speed (laden / unladen)           Lifting speed (laden / unladen)           Lowering speed (laden / unladen)           Max Gradeability (leden / unladen)           Service brake           Engine           Drive motor rating S2 60 min           Lift motor rating S2 50 min           Li	
Service weight         Weight on front axle (laden) / rear axle (laden)         Weight on front axle (Unladen) / rear axle (Unladen)         Wheels         Tires type         Number of load wheels / Size of load wheels         Number of stabilizer wheels / Size of the stabilizer wheels         Number of front wheels / rear wheels         Number of drive wheels / Size of drive wheels         Front wheel gauge         Rear wheel gauge         Dimensions         Fork height in low position         Overall width         Forks section / width / length         Fork carriage width         Ground clearance below mast         Ground clearance to centre of wheelbase         Turning radius         Performances         Travel speed (laden / unladen)         Lifting speed (laden / unladen)         Max Gradeability (laden / unladen)         Service brake         Engine         Drive motor rating S2 60 min         Lift motor rating S2 60 min         Lift motor rating s2 50 min	Wheelbase
Service weight         Weight on front axle (laden) / rear axle (laden)         Weight on front axle (Unladen) / rear axle (Unladen)         Wheels         Tires type         Number of load wheels / Size of load wheels         Number of stabilizer wheels / Size of the stabilizer wheels         Number of front wheels / rear wheels         Number of drive wheels / Size of drive wheels         Front wheel gauge         Rear wheel gauge         Dimensions         Fork height in low position         Overall width         Forks section / width / length         Fork carriage width         Ground clearance below mast         Ground clearance to centre of wheelbase         Turning radius         Performances         Travel speed (laden / unladen)         Lifting speed (laden / unladen)         Max Gradeability (laden / unladen)         Service brake         Engine         Drive motor rating S2 60 min         Lift motor rating S2 60 min         Lift motor rating s2 50 min	Weight
Weight on front axle (laden) / rear axle (Unladen)         Weight on front axle (Unladen) / rear axle (Unladen)         Wheels         Tires type         Number of load wheels / Size of load wheels         Number of stabilizer wheels / Size of the stabilizer wheels         Number of front wheels / rear wheels         Front wheel gauge         Rear wheel gauge         Bare wheel gauge         Point his low position         Overall length         Length to face of forks         Overall width         Fork carriage width         Ground clearance below mast         Ground clearance at centre of wheelbase         Turning radius         Performances         Travel speed (laden / unladen)         Max Gradeability (laden / unladen)         Max Gradeability (laden / unladen)         Service brake         Engine         Drive motor rating S2 60 min         Lift motor rating s15%         Battery weight (+/- 5%)	-
Weight on front axle (Unladen) / rear axle (Unladen)         Wheels         Tires type         Number of load wheels / Size of load wheels         Number of stabilizer wheels / Size of the stabilizer wheels         Number of front wheels / rear wheels         Number of drive wheels / Size of drive wheels         Front wheel gauge         Rear wheel gauge         Dimensions         Fork height in low position         Overall length         Length to face of forks         Overall width         Fork section / width / length         Fork carriage width         Ground clearance below mast         Ground clearance at centre of wheelbase         Turning radius         Performances         Travel speed (laden / unladen)         Lifting speed (laden / unladen)         Max Gradeability (laden / unladen)         Service brake         Engine         Drive motor rating S2 60 min         Lift motor rating s2 50 min         Lift motor rating	-
Wheels           Tires type           Number of load wheels / Size of load wheels           Number of stabilizer wheels / Size of the stabilizer wheels           Number of front wheels / rear wheels           Number of drive wheels / Size of drive wheels           Front wheel gauge           Rear wheel gauge           Dimensions           Fork height in low position           Overall length           Length to face of forks           Overall width           Fork section / width / length           Fork carriage width           Ground clearance below mast           Ground clearance at centre of wheelbase           Turning radius           Performances           Travel speed (laden / unladen)           Lifting speed (laden / unladen)           Lowering speed (laden / unladen)           Service brake           Engine           Drive motor rating S2 60 min           Lift motor rating at S3 15%           Battery woltage / capacity           Battery weight (+/- 5%)	
Tires type         Number of load wheels / Size of load wheels         Number of stabilizer wheels / Size of the stabilizer wheels         Number of front wheels / rear wheels         Number of drive wheels / Size of drive wheels         Front wheel gauge         Rear wheel gauge         Dimensions         Fork height in low position         Overall length         Length to face of forks         Overall width         Fork section / width / length         Fork carriage width         Ground clearance below mast         Ground clearance at centre of wheelbase         Turming radius         Performances         Travel speed (laden / unladen)         Lifting speed (laden / unladen)         Service brake         Engine         Drive motor rating S2 60 min         Lift motor rating s1 5%         Battery weight (+/- 5%)	
Number of load wheels / Size of load wheels         Number of stabilizer wheels / Size of the stabilizer wheels         Number of front wheels / rear wheels         Number of drive wheels / Size of drive wheels         Front wheel gauge         Rear wheel gauge         Dimensions         Fork height in low position         Overall length         Length to face of forks         Overall width         Fork section / width / length         Fork carriage width         Ground clearance below mast         Ground clearance at centre of wheelbase         Turning radius         Performances         Travel speed (laden / unladen)         Lifting speed (laden / unladen)         Service brake         Engine         Drive motor rating S2 60 min         Lift motor rating s1 5%         Battery weight (+/- 5%)	
Number of stabilizer wheels / Size of the stabilizer wheels         Number of front wheels / rear wheels         Number of drive wheels / Size of drive wheels         Front wheel gauge         Rear wheel gauge         Dimensions         Fork height in low position         Overall length         Length to face of forks         Overall width         Fork section / width / length         Fork carriage width         Ground clearance below mast         Ground clearance at centre of wheelbase         Tuming radius         Performances         Travel speed (laden / unladen)         Lifting speed (laden / unladen)         Lowering speed (laden / unladen)         Service brake         Engine         Drive motor rating S2 60 min         Lift motor rating s1 5%         Battery weight (+/- 5%)	
Number of front wheels / rear wheels         Number of drive wheels / Size of drive wheels         Front wheel gauge         Rear wheel gauge         Dimensions         Fork height in low position         Overall length         Length to face of forks         Overall width         Forks section / width / length         Fork carriage width         Ground clearance below mast         Ground clearance at centre of wheelbase         Turning radius         Performances         Travel speed (laden / unladen)         Lifting speed (laden / unladen)         Lowering speed (laden / unladen)         Service brake         Engine         Drive motor rating S2 60 min         Lift motor rating at S3 15%         Battery weight (+/- 5%)	
Number of drive wheels / Size of drive wheels         Front wheel gauge         Rear wheel gauge         Dimensions         Fork height in low position         Overall length         Length to face of forks         Overall width         Fork section / width / length         Fork carriage width         Ground clearance below mast         Ground clearance at centre of wheelbase         Turning radius         Performances         Travel speed (laden / unladen)         Lifting speed (laden / unladen)         Lowering speed (laden / unladen)         Service brake         Engine         Drive motor rating S2 60 min         Lift motor rating at S3 15%         Battery weight (+/- 5%)	
Front wheel gauge         Rear wheel gauge         Dimensions         Fork height in low position         Overall length         Length to face of forks         Overall width         Fork section / width / length         Fork carriage width         Ground clearance below mast         Ground clearance at centre of wheelbase         Turning radius         Performances         Travel speed (laden / unladen)         Lowring speed (laden / unladen)         Max Gradeability (laden / unladen)         Service brake         Engine         Drive motor rating S2 60 min         Lift motor rating at S3 15%         Battery weight (+/- 5%)	
Rear wheel gauge         Dimensions         Fork height in low position         Overall length         Length to face of forks         Overall width         Forks section / width / length         Fork carriage width         Ground clearance below mast         Ground clearance below mast         Ground clearance at centre of wheelbase         Turning radius         Performances         Travel speed (laden / unladen)         Lifting speed (laden / unladen)         Lowering speed (laden / unladen)         Service brake         Engine         Drive motor rating S2 60 min         Lift motor rating at S3 15%         Battery woltage / capacity         Battery weight (+/- 5%)	
Dimensions         Fork height in low position         Overall length         Length to face of forks         Overall width         Forks section / width / length         Fork carriage width         Ground clearance below mast         Ground clearance below mast         Ground clearance at centre of wheelbase         Turning radius         Performances         Travel speed (laden / unladen)         Lifting speed (laden / unladen)         Lowering speed (laden / unladen)         Service brake         Engine         Drive motor rating S2 60 min         Lift motor rating at S3 15%         Battery voltage / capacity         Battery weight (+/- 5%)	5.5
Fork height in low position         Overall length         Length to face of forks         Overall width         Forks section / width / length         Fork carriage width         Ground clearance below mast         Ground clearance tentre of wheelbase         Turning radius         Performances         Travel speed (laden / unladen)         Lifting speed (laden / unladen)         Lowering speed (laden / unladen)         Service brake         Engine         Drive motor rating S2 60 min         Lift motor rating at S3 15%         Battery voltage / capacity         Battery weight (+/- 5%)	
Overall length         Length to face of forks         Overall width         Forks section / width / length         Fork carriage width         Ground clearance below mast         Ground clearance at centre of wheelbase         Turning radius         Performances         Travel speed (laden / unladen)         Lifting speed (laden / unladen)         Lowering speed (laden / unladen)         Service brake         Engine         Drive motor rating S2 60 min         Lift motor rating at S3 15%         Battery weight (+/- 5%)	
Length to face of forks         Overall width         Forks section / width / length         Fork carriage width         Ground clearance below mast         Ground clearance at centre of wheelbase         Turning radius         Performances         Travel speed (laden / unladen)         Lifting speed (laden / unladen)         Lowering speed (laden / unladen)         Service brake         Engine         Drive motor rating \$2 60 min         Lift motor rating at \$3 15%         Battery voltage / capacity         Battery weight (+/- 5%)	
Overall width         Forks section / width / length         Fork carriage width         Ground clearance below mast         Ground clearance at centre of wheelbase         Turning radius         Performances         Travel speed (laden / unladen)         Lifting speed (laden / unladen)         Lowering speed (laden / unladen)         Service brake         Engine         Drive motor rating \$2 60 min         Lift motor rating at \$3 15%         Battery voltage / capacity         Battery weight (+/- 5%)	Overall length
Forks section / width / length         Fork carriage width         Ground clearance below mast         Ground clearance at centre of wheelbase         Turning radius         Performances         Travel speed (laden / unladen)         Lifting speed (laden / unladen)         Lowering speed (laden / unladen)         Service brake         Engine         Drive motor rating \$2 60 min         Lift motor rating at \$3 15%         Battery voltage / capacity         Battery weight (+/- 5%)	Length to face of forks
Fork carriage width Ground clearance below mast Ground clearance at centre of wheelbase Turning radius Performances Travel speed (laden / unladen) Lifting speed (laden / unladen) Lowering speed (laden / unladen) Max Gradeability (laden / unladen) Service brake Engine Drive motor rating S2 60 min Lift motor rating st S3 15% Battery voltage / capacity Battery weight (+/- 5%)	Overall width
Ground clearance below mast         Ground clearance at centre of wheelbase         Turning radius         Performances         Travel speed (laden / unladen)         Lifting speed (laden / unladen)         Lowering speed (laden / unladen)         Service brake         Engine         Drive motor rating \$2 60 min         Lift motor rating at \$3 15%         Battery voltage / capacity         Battery weight (+/- 5%)	Forks section / width / length
Ground clearance at centre of wheelbase         Turning radius         Performances         Travel speed (laden / unladen)         Lifting speed (laden / unladen)         Lowering speed (laden / unladen)         Service brake         Engine         Drive motor rating S2 60 min         Lift motor rating at S3 15%         Battery voltage / capacity         Battery weight (+/- 5%)	Fork carriage width
Tuming radius         Performances         Travel speed (laden / unladen)         Lifting speed (laden / unladen)         Lowering speed (laden / unladen)         Max Gradeability (laden / unladen)         Service brake         Engine         Drive motor rating \$2.60 min         Lift motor rating at \$3.15%         Battery voltage / capacity         Battery weight (+/- 5%)	Ground clearance below mast
Performances         Travel speed (laden / unladen)         Lifting speed (laden / unladen)         Lowering speed (laden / unladen)         Max Gradeability (laden / unladen)         Service brake         Engine         Drive motor rating S2 60 min         Lift motor rating at S3 15%         Battery voltage / capacity         Battery weight (+/- 5%)	Ground clearance at centre of wheelbase
Travel speed (laden / unladen)         Lifting speed (laden / unladen)         Lowering speed (laden / unladen)         Max Gradeability (laden / unladen)         Service brake         Engine         Drive motor rating S2 60 min         Lift motor rating at S3 15%         Battery voltage / capacity         Battery weight (+/- 5%)	Turning radius
Lifting speed (laden / unladen) Lowering speed (laden / unladen) Max Gradeability (laden / unladen) Service brake Engine Drive motor rating S2 60 min Lift motor rating at S3 15% Battery voltage / capacity Battery weight (+/- 5%)	Performances
Lifting speed (laden / unladen) Lowering speed (laden / unladen) Max Gradeability (laden / unladen) Service brake Engine Drive motor rating S2 60 min Lift motor rating at S3 15% Battery voltage / capacity Battery weight (+/- 5%)	Travel speed (laden / unladen)
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Lift motor rating at S3 15% Battery voltage / capacity Battery weight (+/- 5%)	-
Battery voltage / capacity Battery weight (+/- 5%)	-
Battery weight (+/- 5%)	
Wiscenaneous	
Time of drive control	
Type of drive control Sound level at the driver's ear according to DIN 12 053	

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

	Metric
	Manitou
	ES 412
	Electrical
	Pedestrian
Q	1200 kg
с	600 mm
х	683 mm
у	1245 mm
	874 kg
	729 kg / 1342 kg
	612 kg / 262 kg
	Polyurethane
	2 / 82x70
	1 / 125x50
	2 / 2
	1/230x70
b10	517 mm
b11	380 mm
h13	85 mm
l1	1870 mm
12	720 mm
b1	800 mm
/ e / l	60 mm / 180 mm / 1150 mm
b3	680 mm
m1	35 mm
m2	20 mm
Wa	1400 mm
	6 km/h / 6 km/h
	0.12 m/s / 0.24 m/s
	0.30 m/s / 0.20 m/s
	8 % / 10 %
	Electro magnetic
	1.20 kW
	3 kW
	24 V / 180 Ah
	160 kg
	AC
	65 dB



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