

# SERVICE MANUAL

**VL570 / VL600 / VL610 / VL620 / VL630  
VL640 / VL660 / VM370 / VM460 / VN300**  
Grape Harvester

Part number 6048233100

English

February 2006



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# REPAIR MANUAL

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# SPECIFICATIONS

## Chapter 1

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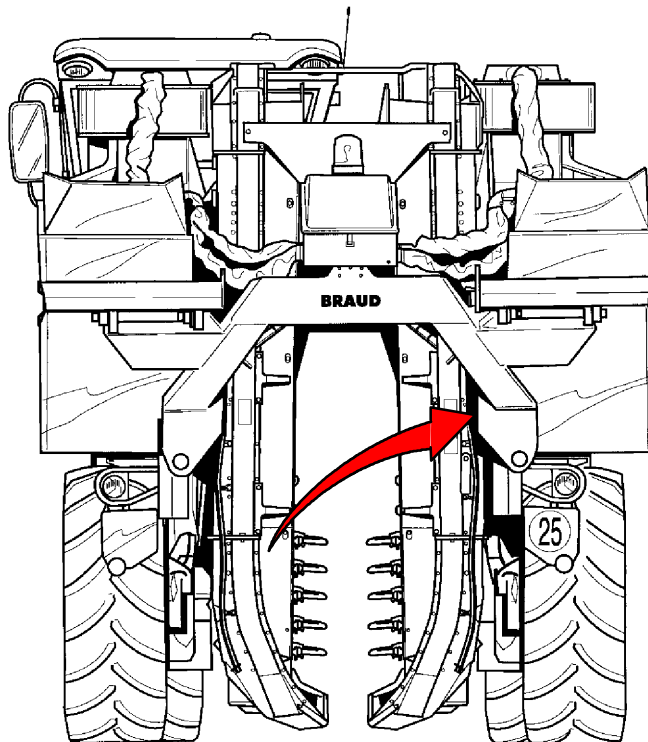
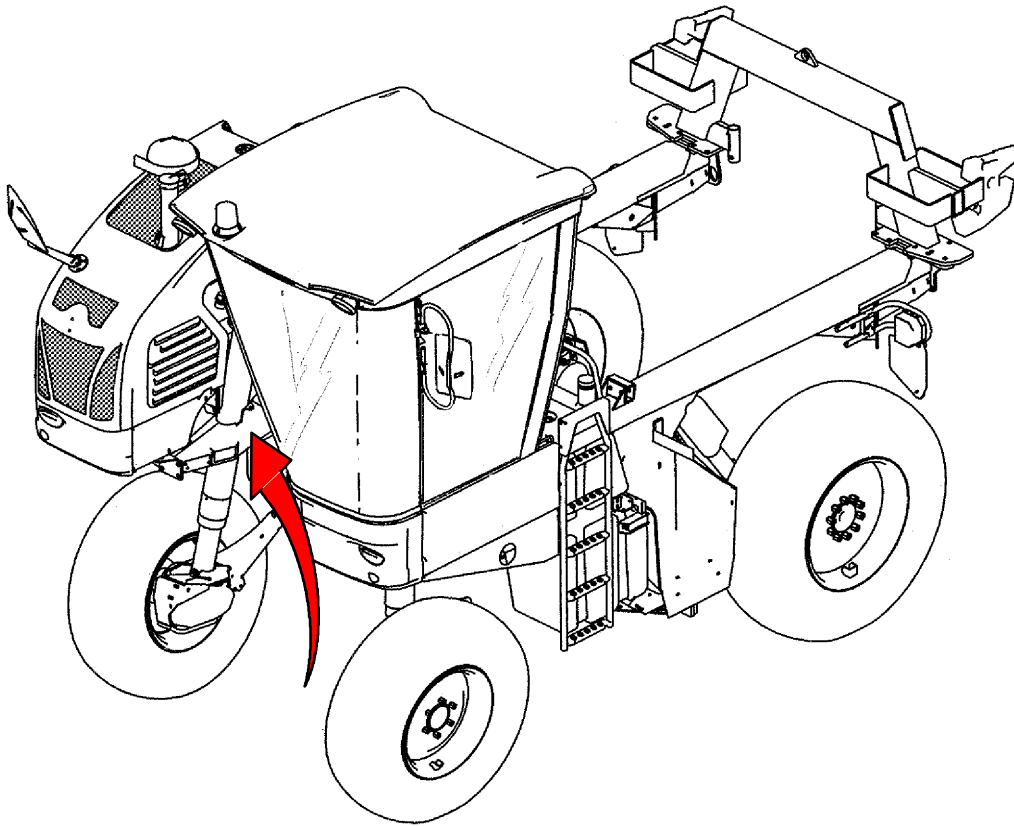
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## MACHINE IDENTIFICATION DATA

Model	Technical type	Serial no.	Machine no.
VL 660	664	001	001
VL 640	660	001	001
VL 630	660	001	001
VL 620	656	001	001
VL 610	656	001	001
VL 600	650	001	001
VM 460	636	001	001
VN 300	643	001	001
Harvesting equipment VL	657	001	001
Harvesting equipment VM	637	001	001
VL 570	655	001	001
VN 370	635	001	001
Harvesting equipment VL	654	001	001
Harvesting equipment VM	634	001	001

**Note:** the number of the harvesting equipment becomes like that of the self-propelled machine starting from series:

664011; 660011; 656011; 636005; 650001; 643001.

**A** = Manufacturer's label

**B** = Printed frame number

## OPERATOR'S MANUAL

VL 610 ÷ 660 and VM 460: 6048020100 (GB)

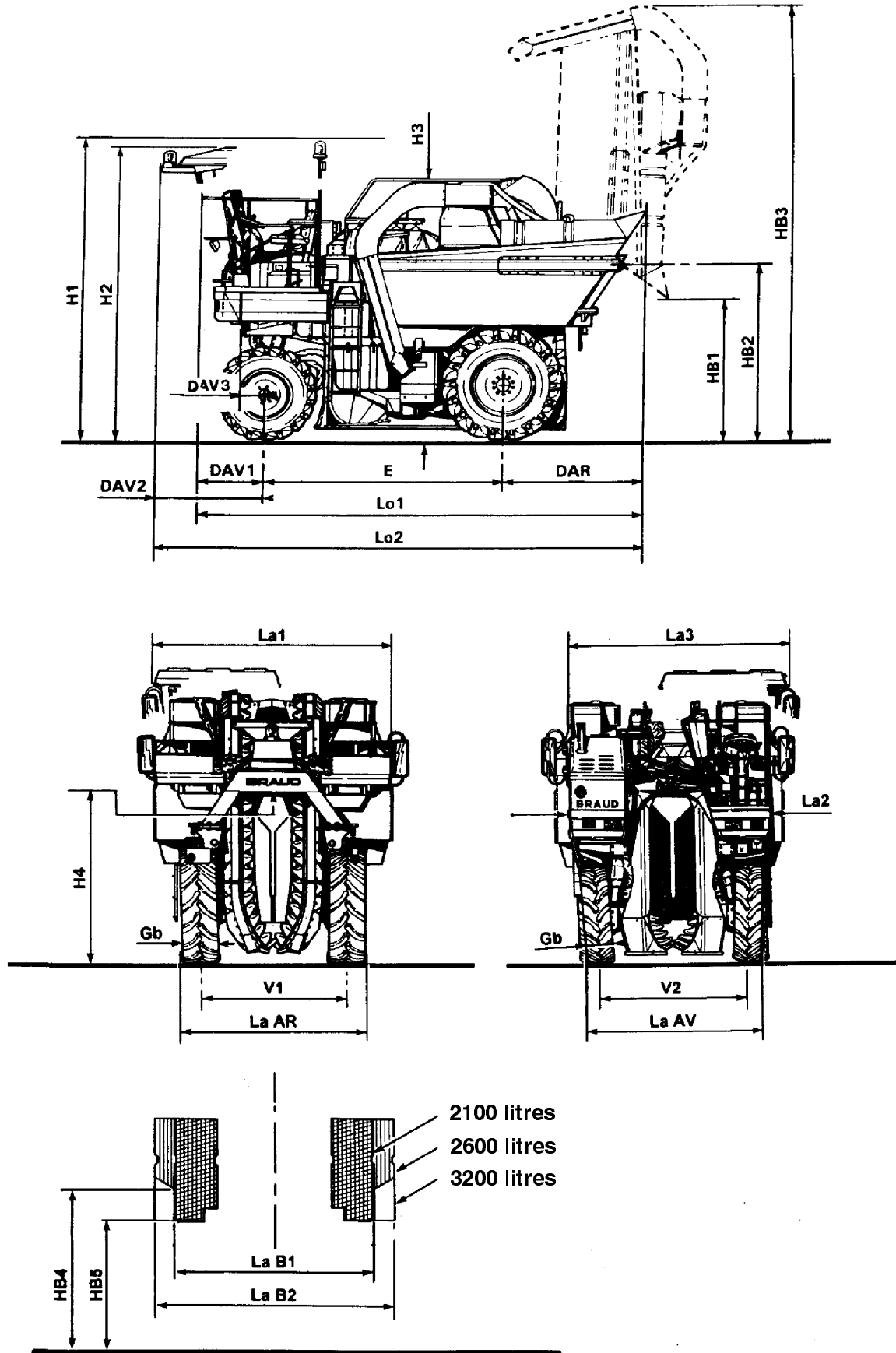
VL 570 and VM 370: 6048023100 (GB)

VL 600: 6048025100 (GB)

VN 300: 6048026100 (GB)

## SPARE PART CATALOGUE

Reference:



COMMERCIAL DESCRIPTION			VL 600 + 660	VM 460
Code	DIMENSIONS (mm)			
H1	Height:	without cab	3635	
H2	(with harvesting equipment on the ground)	with cab at the revolving beacon		
H3	Harvesting equipment height with (without) destemmers	at the railings	3380 (3520)	
H4	Clearance under the harvesting equipment		from 2000 to 2600	
HB1	Clearance under tilted-up hoppers		1710	
HB2	Tilting axle height		2100	
HB3	Max. height with lifted hoppers		5150	
HB4	Height under clearance	2600-l hoppers	1840	
HB5	Height under clearance	3200-l hoppers	1415	
E	Wheelbase		2850	
La1	Max. width at the hoppers	2100-l hoppers	2800 (1)	2720 (2)
		2100   + cab	3000	2800
		2600   or 3200	3000	
La2	Max. width from cover to cover	Self-propelled machine only	2590	2390
La3	Max. width from cab top to right cover	Self-propelled machine only	2830	2630
LaB1	Hopper width	2100	2530	2330
LaB2		2600	3000	2800
		3200	3000	
La AR	Outer width at the back wheels: (V1 + Gb = La AR)		(*)(3)	(4)
		Tyres 420/85 R 28	2160 + 454 = 2614	1790 + 454 = 2244
		Tyres 480/70 R 28	2260 + 480 = 2740	1860 + 480 = 2340
		Tyres 540/65 R 28	2340 + 540 = 2880	
		Tyres 600/55-30.5	2360 + 600 = 2960	
La AV	Outer width at the front wheels (V2 + Gb = La AV) (V2 at ground level)	Tyres 420/70 R 24	1930 + 420 = 2350	1730 + 420 = 2150
		Tyres 13.6 R 24	1930 + 350 = 2280	1730 + 350 = 2150
Lo1	Max. length	without cab	5360 (5510)	
Lo2	without (with) destemmers	with cab	5490 (5650)	
DAV1	Front offset	without cab	930	
DAR2		with cab	1070	
DAV3	Offset of front supports for multipurpose		277	
DAR	Rear offset with (without) destemmers		1570 (1730)	

Note: in road position, the noria is at 190 mm from the ground

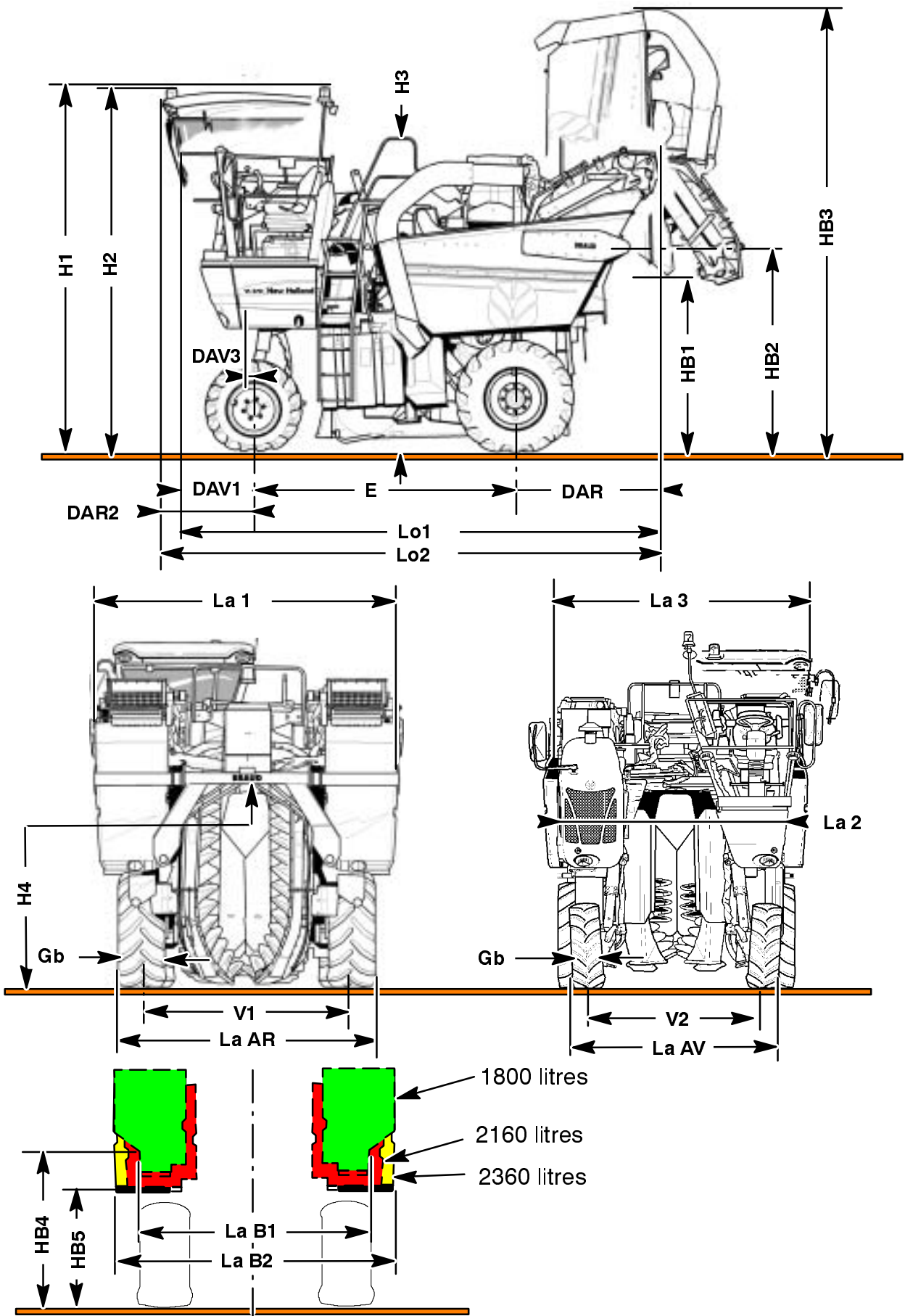
(1) Tyres 420/85 R28

(\*) Large track = narrow track + 160 mm

(2) Tyres 480/70 R28

(3) Bearings on large track

(4) Bearings on narrow track



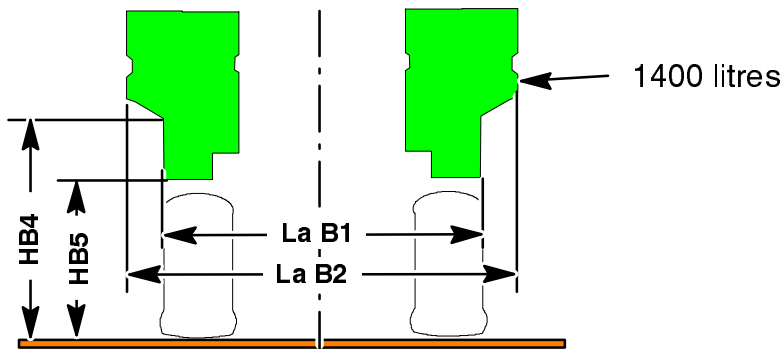
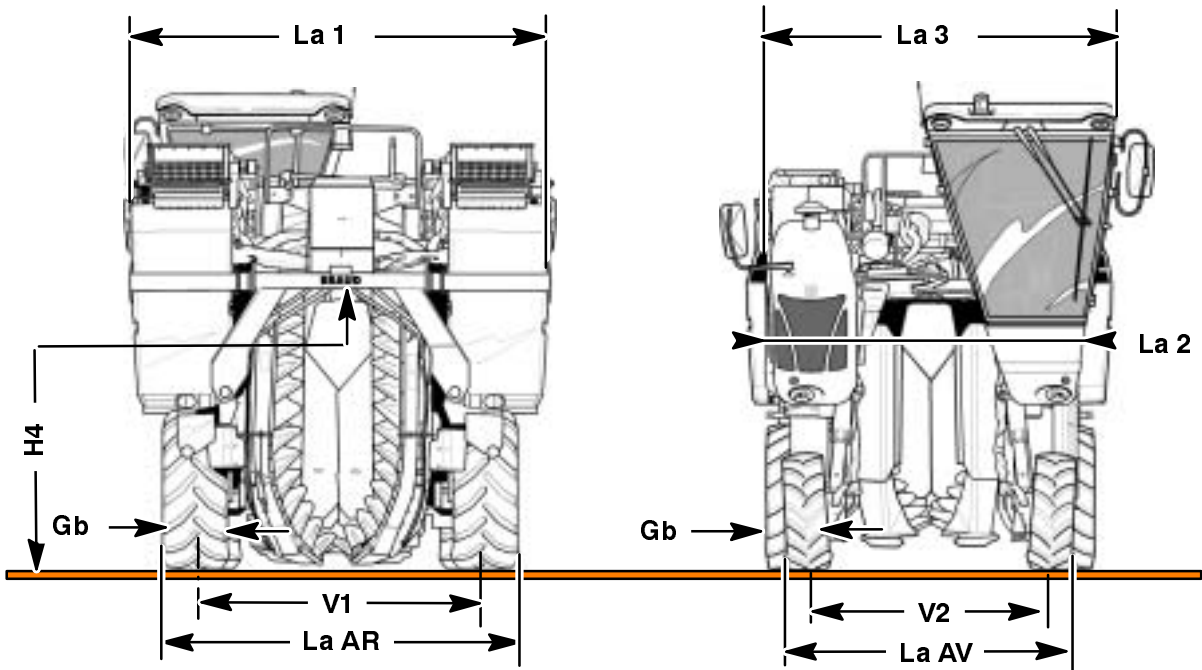
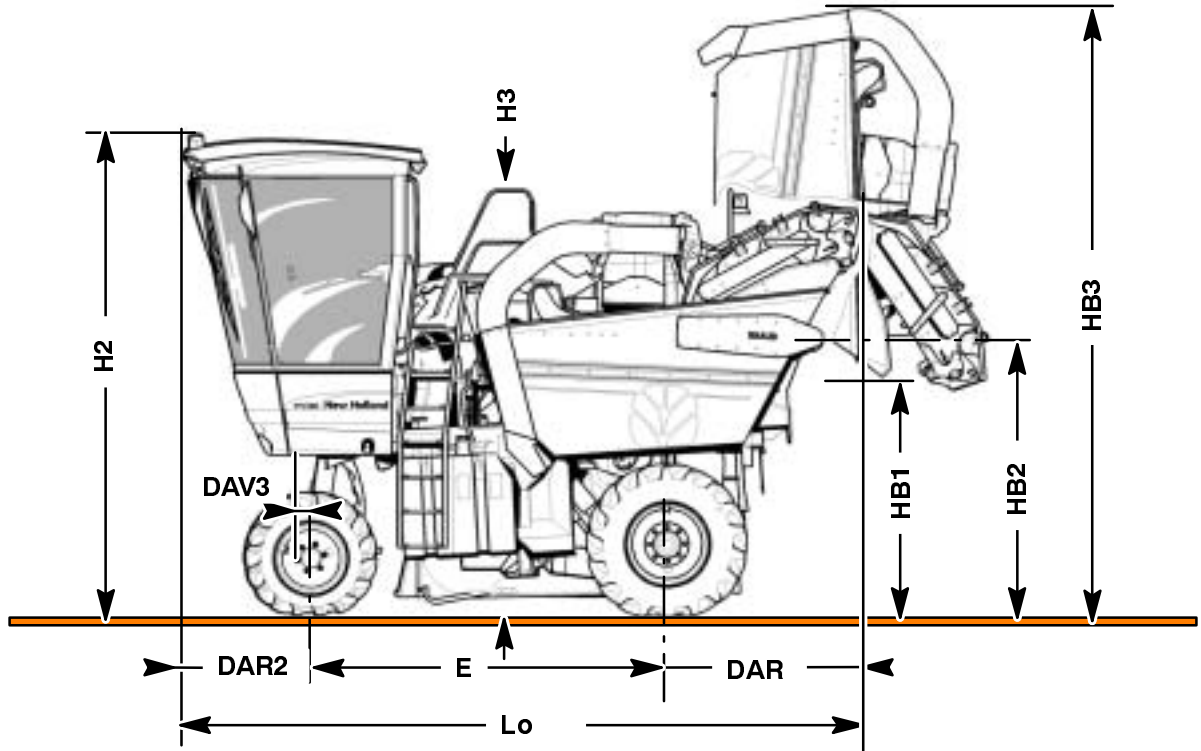
COMMERCIAL DESCRIPTION			VL 570	VN 370
Code			DIMENSIONS (mm)	
H1	Height:	without cab at the revolving beacon	3160 (3745)	3040 (3615)
H2	(with harvesting equipment on the ground)	with cab (at the revolving beacon)	3605	3475
H3	Harvesting equipment height	at the railings	3285	3185
H4	Clearance under the harvesting equipment		from 1950 to 2450	from 1800 to 2300
HB1	Clearance under tilted-up hoppers		1830	
HB2	Tilting axle height		2110	
HB3	Max. height with lifted hoppers		4620	
HB4	Height under clearance	1800-l hoppers	1700	1550
HB5	Height under clearance	2160-l hoppers 2300-l hoppers	---- 1150	1150 ----
E	Wheelbase		2760	
La1	Max. width at the hoppers	2360-l hoppers 2360 l + cab	3000 3000	2800 2800
La2	Max. width from cover to cover	Self-propelled machine only	2540	2340
La3	Max. width from cab top to right cover	Self-propelled machine only	2750	2540
LaB1	Hopper width	1800 l	2480	2290
LaB2		2160 l	----	2800
		2360 l	3000	----
La AR	Outer width at the back wheels: (V1 + Gb = La AR)	Tyres 11.2 R24 (1)	----	1680 + 291 = 1971
		Tyres 11.2-24 T35	----	1680 + 305 = 1985
		Tyres 340/85 R 24	----	1780 + 366 = 2146
		Tyres 420/70 R 24	2090 + 431 = 2521	----
		Tyres 460/70 R 24	2120 + 462 = 2582	----
		Tyres 480/65 R 24 (2)	2120 + 484 = 2604	----
La AV	Outer width at the front wheels (V2 + Gb = La AV) (V2 at ground level)	Tyres 280/70 R 20		1720 + 275 = 1995
		Tyres 320/70 R 20	1920 + 315 = 2235	1720 + 315 = 2035
Lo1	Max. length	without cab	4900 (5090)	
Lo2	without (with) destemmers	with cab	4990 (5180)	
DAV1	Front offset:	without cab	880	
DAR2		with cab	970	
DAV3	Offset of front supports for multipurpose		40	
DAR	Rear offset with (without) destemmers		1260 (1450)	

**NOTE:**

*in road position, the noria is at 200 mm from the ground*

(1) not more produced

(2) an additional equipment with destemmers on a VL570 with 480 / 65 R24 tyres is not allowed.



COMMERCIAL DESCRIPTION			VN 300	
Code	DIMENSIONS (mm)			
H1	Height:	without cab		
H2	(with harvesting equipment on the ground)	with cab at the revolving beacon	3475	
H3	Harvesting equipment height	at the railings	3025	
H4	Clearance under the harvesting equipment		from 1500 to 2000	
HB1	Clearance under tilted-up hoppers (under destemmers)		1735 (1570)	
HB2	Tilting axle height		1965	
HB3	Max. height with lifted hoppers		4490	
HB4	Height under clearance	1400-l hoppers	1340	
E	Wheelbase		2740	
La1	Max. width at the hoppers		2400	
La2	Max. width from cover to cover	Self-propelled machine only	2090	
La3	Max. width from cab top to right cover	Self-propelled machine only	2300	
LaB1	Hopper width		2017	
LaB2			2400	
La AR	Outer width at the back wheels: (V1 + Gb = La AR)	Tyres 340/85 R 24	1540 + 365 = 1905	
La AV	Outer width at the front wheels (V2 + Gb = La AV) (V2 at ground level)	Tyres 320/70 R 20	1480 + 315 = 1795	
Lo	Max. length without (with) destemmers	without cab	4930 (5210)	
DAV1	Front offset	without cab	980	
DAR2		with cab		
DAV3	Offset of front supports for multipurpose		40	
DAR	Rear offset without (with) destemmers		1210 (1490)	

**NOTE** : in road position, the noria is at 200 mm from the ground

COMMERCIAL DESCRIPTION		VL 600 + 660	VM 460
<b>WEIGHT</b>			
PTAC - Total allowed weight under load (kg) (1) (2)		from 9200 to 10500	from 9200 to 9600
Allowed partition (2)			
front axle (kg)		from 3980 to 4200	from 3980 to 4200
rear axle (kg)		from 5380 to 7300	from 5380 to 5540
Unladen weight with harvesting equipment, VL600 (VL610 ÷ 660)		8200 (8660)	8660
- with hoppers (litres), standard wheels and cab, but without des- temmers and without lower extractors		2600	2200
- with destemmers, add ....(kg)		460	460
(1) up to 10000 kg for VL600 and up to 10500 kg for VL 610 and 660			
(2) depending on the tyres and on the load index			
<b>FEEDING / EXHAUST</b>			
Fuel tank	Used fuel	Diesel oil	
	Capacity (litres)	250	
Thermal engine (cylinders)		6	4
- ISO power (kW/CV)		VL 610 and 620 = 107/145	94/128
- Displacement = 1125 cm <sup>3</sup> /cylinder		VL 630 and 640 = 120/160	
		VL 660 = 129/175	
Empty speed +/- 50 (rpm)		2500	2500
Air cleaner	Make	DONALDSON	
	Type	ELB 12-0265	
Engine cooling	Water capacity (litres)		
	Fan	Sucking	
Cooling fan Ø (mm)		610	584
<b>DRIVE LINE</b>			
Pump for engine fan	Make	SAUER	
	Displacement (cm <sup>3</sup> /rev.)	17	
	Idling speed (rpm)	(1.02 x engine speed)	
	Capacity (l/minute), output 0.9	38	
Fan motor	Make	SAUER	
	Displacement (cm <sup>3</sup> /rev.)	12.2	
Variable displace- ment inching hy- draulic pump:	Make	REXROTH	
	Type	A4VG	
	Total displacement (cm <sup>3</sup> /rev.)	from 0 to 105	

COMMERCIAL DESCRIPTION		VL 600 + 660	VM 460
<b>DRIVE LINE (follows)</b>			
Priming pump	Displacement (cm <sup>3</sup> /rev.)	26	
	Capacity (l/minute), output 0.9	58.5	
Front wheel motor	Make	POCLAIN	
	Type	MS 08	
	Displacement (cm <sup>3</sup> /rev.)	1043	
Rear wheel motor	Make	POCLAIN	
	Type	MSE 18	
	Displacement (cm <sup>3</sup> /rev.)	2636 (1406/1230)	
Max. speed (km/h) in road position		25 km/h	
Max. speed (km/h) in field position		12	
Hydraulic oil			
Capacity (litres)	Reservoir	65	
Oil type	New Holland:	Hydrosystem 68 Hydrosystem 68 BIO S	
Conveyor and extractor pump	Make	REXROTH	
	Displacement (cm <sup>3</sup> /rev.)	"Load sensing" from 0 to 45	
	Idling speed in rpm	2500 (see engine speed)	
	Capacity (l/minute), output 0.9	101.2	
Shaking pump	Make	SAUER	
	Displacement (cm <sup>3</sup> /rev.)	22	
	Idling speed in rpm	2500 (see engine speed)	
	Capacity (l/minute), output 0.9	49.5	
Steering/lifting/hopper pump	Make	SAUER	
	Displacement (cm <sup>3</sup> /rev.)	14	
	Idling speed in rpm	(1.02 x engine speed)	
	Capacity (l/minute), output 0.9	32	
<b>STEERING</b>		<b>Hydrostatic</b>	
Type		EATON QAMP 146 cm <sup>3</sup> /rev.	
<b>BRAKING</b>			
Service brake		Ensured by the hydrostatic drive	
Handbrake (acting on the two rear wheels)		Operated by ONE pedal and by the steering	
Parking brake		Operated by left hand lever	

COMMERCIAL DESCRIPTION		VL 600 + 660	VM 460
TILTING CORRECTION		30%	
<b>PLATFORM CAB</b>			
Heated and A/C cab		Depending on the model	
Activated charcoal filter		Optional	
On-board computer		●	
Grand-Luxe seat			
Pneumatic seat		●	
Multifunction lever		●	
<b>LIGHTING AND WARNING LIGHTS</b>			
High/low beams		2	
Front parking lights		2	
Rear parking lights		2	
Direction indicator warning lights	Front	2	
	Rear	2	
	Side	2	
Stop lights		2	
License plate light		1	
Reflex reflector	Rear	2	
Revolving beacon		2	
Supply voltage	(V)	12	
Alternator	(A)	120	
Battery	(Ah)	180	
Starting presetting	(A)	1000	

COMMERCIAL DESCRIPTION		VL600	VL 600 + 660	VM 460
<b>HARVESTING EQUIPMENT</b>				
<b>HARVESTING HEADER</b>				
Harvesting header hour-meter		No	Yes	
Type			swinging, self-aligning	
System			Shaking, S.D C	
Number of shakers			14	
Straight/elbow connecting rod			13/1	
Shaking operation	Motor manufacturer	EATON	SAUER	
	Displacement (cm <sup>3</sup> /rev.)	46	22	
	Control unit: - Ratio - Grease		1/4 AMBRA GR75MD 1.2 kg	
	Chain:	•		
Toe-in adjustable from the operator's seat		No	Yes	
Amplitude settings			4 or 3	
Min. clearance under the frame (mm)			2000	
Useful harvesting height (mm)			1650	
Harvesting tunnel width (mm)			500	
Noria system	Number of buckets per chain		63 XXL	61 small
	Type		in field speed	
	Synchronized			
	Drive sprockets		16/59	
Flexible shoe-guide width (mm)			from 195 to 265	from 165 to 235
Sealing length (mm)			2100	
Minimum harvesting height (mm)			150	
Drive	Motor manufacturer		EATON	
	Displacement (cm <sup>3</sup> /rev.)		500	
Harvesting conveyors	Width (mm)		600	
	Max. speed rpm		about 750	
	Reverse		yes	
Single operation	Motor manufacturer		EATON	
	Displacement (cm <sup>3</sup> /rev.)		31.6	

COMMERCIAL DESCRIPTION		VL 610 + 660	VM 460
<b>RECEIVING/TRANSPORTATION</b>			
Noria system	Number of buckets per chain	63	61
	Type	XXL (from 600 to 660)	small
	Synchronized	in field speed	in field speed
	Drive sprockets	16/59	16/59
Flexible shoe-guide width (mm)		from 195 to 265	from 165 to 235
Sealing length (mm)		2100	
Minimum harvesting height (mm)		150	
Drive	Motor manufacturer	EATON	
	Displacement (cm <sup>3</sup> /rev.)	500	
Harvesting conveyors	Width (mm)	600	
	Max. speed rpm	about 750	
	Reverse	yes	
Single operation	Motor manufacturer	EATON	
	Displacement (cm <sup>3</sup> /rev.)	31.6	
2 upper extractors with removable stalk choppers	Diameter (mm)	460	
	Drive	hydraulic	
	Motor manufacturer	SAUER	
	Displacement (cm <sup>3</sup> /rev.)	11	
2 lower extractors with	Diameter	430	
	Drive	Hydraulic system	
	Motor manufacturer	SAUER	
	Displacement (cm <sup>3</sup> /rev.)	6	
2 independent stalk choppers with enabling through shaking	Drive	Hydraulic system	
	Motor manufacturer	EATON	
	Displacement (cm <sup>3</sup> /rev.)	8.2	
	Rotation direction	opposite to that of the wheels	



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COMMERCIAL DESCRIPTION	VL 600 + 660	VM 460
<b>RECEIVING/TRANSPORTATION (follows)</b>		
<b>HOPPERS</b>		
Capacity (litres)	2 x 1600	
	2 x 1300	2 x 1300
	2 x 1050	2 x 1050
Electrically-operated distribution auger	Control independent of the grape harvester	
Separating destemmers		
- Belt operation	Motor	
	Displacement (cm <sup>3</sup> /rev.)	EATON
	Speed	59
- Distributor operation	Motor	
	Displacement (cm <sup>3</sup> /rev.)	EATON H plus
	Speed	36

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