

SERVICE MANUAL

SB36 / SB56 / SB58
SB60 / SB62 / SB64
Grape Harvester

Part number 6048223100

English
May 2000



HARVESTERS BRAUD

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TECHNICAL SPECIFICATIONS**Harvesting machines
Self-propelled machines****SB 64 - SB 62 - SB 60 - SB 58 - SB 56 and SB 36****HARVESTER****Disassembling the machine**

- The harvester assembly, including the buckets, is mounted on a special frame and fixed in only three points, thus making disassembly operations very easy.
- All hydraulic lines and electric connections between the self-propelled machine and the harvesting group are equipped with fast-couplings.
- Norias motor can be disassembled without touching the flexible lines.

Shaking header

- Operation principle: S.D.C. (Controlled Dynamic System = C.D.S.)
- Shaking header placed on 4 vibration damping supports.

The frame is made up of the following welded parts:

- Front
2 shaker carriers of thick plate, mounted on tight bearings
- Rear
The shaker rods are fixed to the thick tube channel and allow the shakers to be deformed separately without mutual interference.

Real height: 1.25 m with 26 holes to fix the shakers at any level.

- The shakers are made of very flexible nylon material which has been developed with the help of the Bureau d' Etudes BRAUD (BRAUD Research Department). They have two front holding holes and a rear articulation joint.
 - front fixing: two half flanges
 - rear fixing: mix with a rod and a connection
 - shaker diameter: 32 mm
- The two front shaker carriers are controlled by two small rods and two side cams with two inertial flywheels.
 - Impossible offset
 - Easy-to-adjust width (three positions)
 - Quick adjustable convergence
- Shaking frequency control and adjusting from the driver's seat.
- Permanent displaying of shaking frequency on the dashboard panel

R03-99

Noria collectors

This system is made up of two chains, each with 62 flexible buckets, with speed depending on the machine inching speed.

- two fast couplings to detach the noria-chain assembly and remove the first bucket easily.
- Inching by a hydraulic motor and reduction gearbox (without chain and mechanic limiting devices). Max. torque (300 daNm on noria shaft) is controlled by hydraulic pressure (150 bar).
- operation set through a button from the driver's seat.
- gathering height: 15 cm.
- side guard: stainless plates and plasticized plates.
- rear guard: PVC fenders.
- bucket operating function with standing machine to have them washed and maintained.
- harvesting assembly suspended on two points in the front and in the rear for self-levelling.
- side tilting:
- stalk-guide = from 165 with elastic amplitude up to 250 mm.
= 195 mm with elastic amplitude, up to 265 mm with long edge buckets.

Conveying

- 2 stainless steel side conveyors, with PVC belts, each powered by an hydraulic motor. Width: 600 mm.
- Belt centering kept by another central guide belt.
- Belt rotation reverser.
- Rotation speed displaying on the board computer.

Cleaning

- Lower extractors: Standard SB 64 and SB 58
Optional SB 62, SB 56 and SB 60

The 430 mm diameter rotor sucks the leaves through a duct in the front gathering channel before they fall into the buckets.

A sarment-chopper is mounted on the entry of each duct.

- Upper extractors: standard on all models.

The rotor has a 460 mm diameter and is equipped with a detachable sarment-chopper.

- rotor speed electrically controlled from the driver's seat (upper and lower extractors are controlled separately).
- speed controlled by the board computer: data relevant to upper or lower or conveyor cleaning operation are displayed alternatively through a selection switch.

Technical specifications**Containers**

- Two side containers with independent rear discharge controlled separately by electric push buttons.
- The container can return simultaneously.
- Harvest distribution by means of a large stainless steel auger (180 mm), with low speed and controlled directly by a motor.
- They can be set into operation separately from the harvesting assembly.
- Capacity:
 - 2 x1050 l
 - 2 x1300 l
 - 2 x1600 l excluding SB 36
- Clearance under the container articulation, with lowered machine: 2070 mm.

SELF-PROPELLED MACHINE**Frame**

- Square-sized tubular frame with two supporting beams and a front channel.
- Rear channel to stiffen the frame can be easily disassembled with the harvesting assembly.
- Two arms supporting the rear wheels, with articulation on the frame and orientation by means of cylinders, which ensure the possibility to lift the machine on the right or on the left side up to 600 mm. This makes it possible to adjust the machine leaning up to a 30%.
- Height adjusting stops to keep and restore the same operating height.
- Two front legs bearing sliding and rotating wheels, to fix an hydraulic bar with 80 mm tilting.
- A 600-mm machine lifting, synchronised with the corresponding rear side, makes it possible to adjust the leaning up to a 30%.
- The bar is fixed by a lock through a solenoid valve which controls:
 - each leaning position
 - leaning 3rd LED lighting up starting from 20% in slopes
 - electric power cut off.
- Speed ahead, 90° steering angle.

R5-02/02

Tyres

EQUIPM.	TYPE OF TYRES	PRESSURE (bar)
	SB 64 - 62 - 60 - 58 - 56	
Standard	Front 13.6 R 24 - 129 A 8 "Tubeless" Rear 16.9 R 28 - 136 A 8 "Tubeless"	2.4 1.6
Option 1	Front 420/70 R 24 130 A 8 "Tubeless" Rear 480/70 R 28 140 A 8 "Tubeless"	1.6 1.6
Option 2	Front 420/70 R 24 130 A 8 "Tubeless" Rear 540/65 R 28	1.6 1.6
Option 3	Front 420/70 R 24 130 A 8 "Tubeless" Rear 580/70 R 28 142 A 8	1.6 1.4
Option 4	Front 420/70 R 24 130 A 8 "Tubeless" Rear 580/70 R 26	1.6 1
Option 5	Front 420/70 R 24 130 A 8 "Tubeless" Rear 600/55 - 30.5 - PR 8 Tbl Trelleborg T 414 TL	1.6 1.1
	SB 36	
Standard	Front 13.6 R 24 129 A 8 Rear 14.9 R 30 filled with 75% of Chrysogel Max. speed limited at 18 km/h	2.4 207 litres of Chrysogel 1.9
Option 1	Front 420/70 R 24 130 A 8 "Tubeless" Rear 480/70 R 28 140 A 8 "Tubeless"	1.6 1.6
Option 2	Front 13.6 R 24 129 A 8 "Tubeless" Rear 16.9 R 28 136 A 8 "Tubeless"	2.4 1.6
Option 3	Front 13.6 R 24 129 A 8 "Tubeless" Rear 9.5 R 36****	2.4 4.0

Wheel tightening torque:

front 31 daNm, thus 42 daNm +10% -20% with non-rotating base nut
Rear 55 daNm, thus 70 daNm +10% -20% with non-rotating base nut

Ratio between rear and front circumferences: it must be between 1.12 and 1.20.

Wheel ballasting

Usually wheel ballasting isn't required. Anyway, in some particular cases, the wheels can be ballasted with liquid.

For ballasting with liquid the wheels equipped with **"Tubeless" tyres** calcium chloride cannot be used.

Mono-ethylene glycol liquids are recommended, with corrosion-preventers such as nitrites (NaNO₂).

For example: Ambra Agriflu diluted in water.

Freezing temperature - C	- 16	- 18	- 25	- 37
% Agriflu	30	33	40	50

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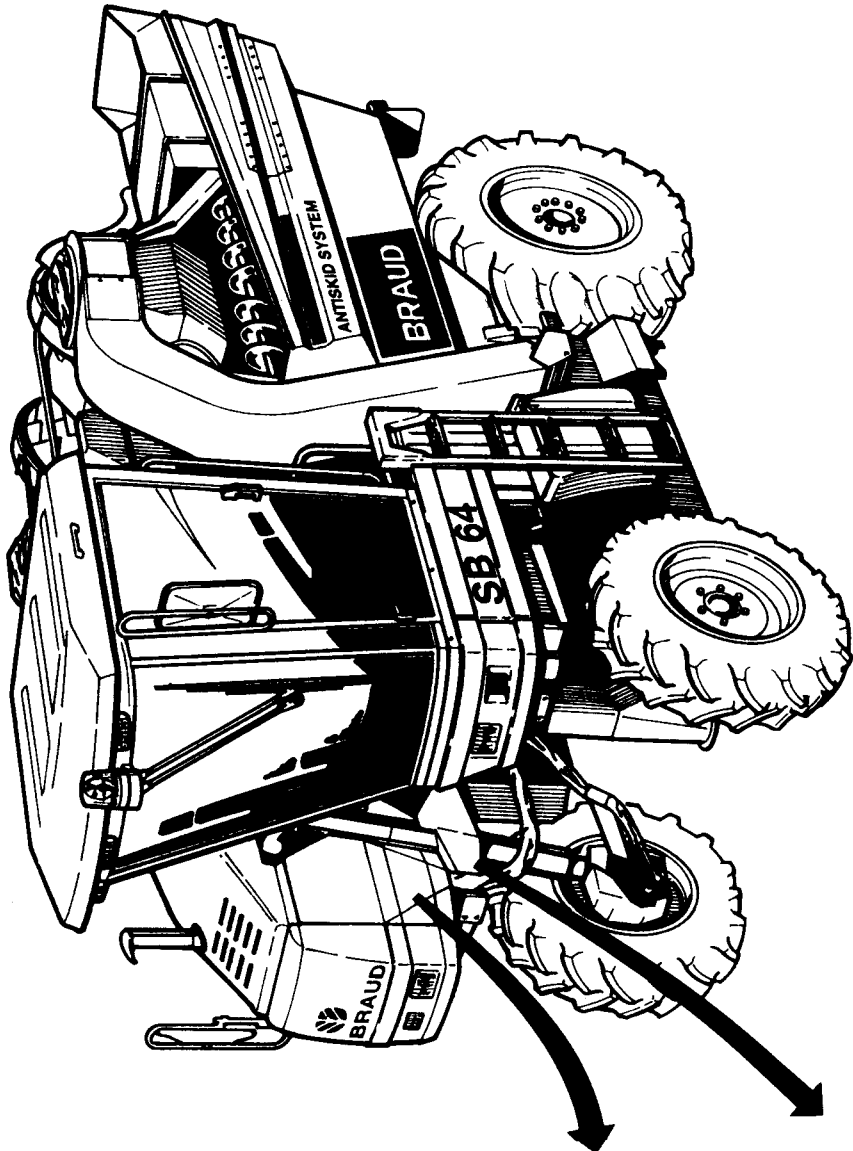
Driving platform

- Driver's seat placed on the front left of the machine, to give an overall view on the vineyard and the headland.
- Standard cab conditioning for SB 64 and SB 58.
- Steering wheel position adjusting.
- No hydraulic element inside the cab (to prevent accidents and noise).
- All tools to operate during the harvesting are controlled by buttons on the inching lever (leaning, shaking, cleaning).
- Electric safety leaning control.
- Compulsory simultaneous stopping of the whole machine assembly.
- Retractable ladder to facilitate getting on the harvesting header.

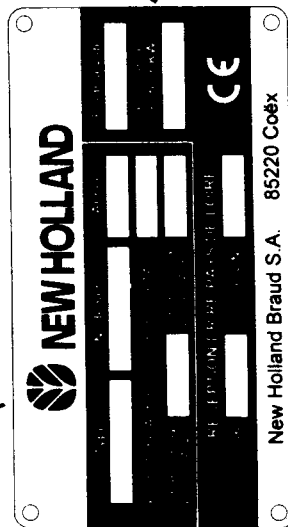
MULTI-PURPOSE

- These machines are partially multi-functioning, with a harvesting header which can be easily detached.
 - Three fast coupling connections on the hydraulic system.
 - Three fast coupling connection in the electric system.
 - Noria motor disassembling without taking the hoses off.
 - Removable lower fastening of left and right conveyor bearing channels.
 - Removable articulation of the anti-backing bars.
- Possibility to adapt tools of series 2000 with a distribution kit.
- Hydraulic power take off by 30 or 45 CV.

BASIC SUPPLY



A



629 A02 001

B

MACHINE IDENTIFICATION

Model	Type	Serial number	Machine number of the series
SB 64	629	A02	001
SB 62	629	B03	001
SB 60	629	C12	001
SB 58	628	002	001
SB 56	628	002	001
SB 36	627	002	001
Starting from the following series, the letter of the serial number changes			
Model	Type	Serial number	Machine number of the series
SB 64	629	D54	001
SB 60	629	E53	001
SB 58	628	B50	001
SB 56	628	B51	001
SB 36	627	A08	001

A = Manufacturer's label

B = Stamped frame number

Note: the machine number on the manufacturer's data plate can be different depending on type of tyres installed and thus on the max. speed on road.

Example: in model SB 36 with rear wheels 16.9 R28, the number shall be 627 A10 001
in model SB 36 with rear wheels 14.9 R30, the number shall be 627 A10 101

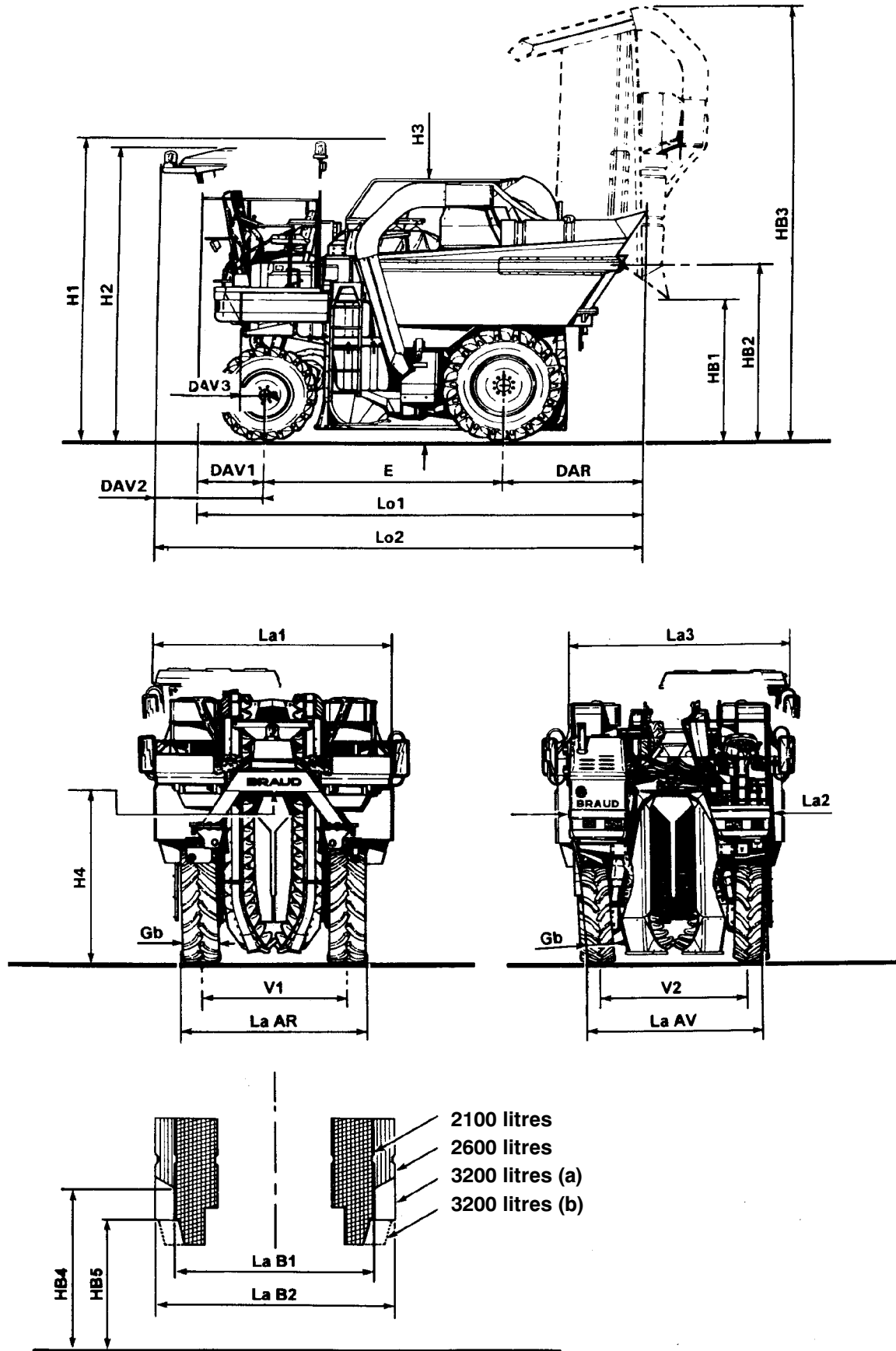
OPERATOR'S MANUAL

Print no.: 604 80 101 00 (GB) 97

SPARE PART CATALOGUE

Print no.: 604 81 055 00

BASIC SUPPLY



BASIC SUPPLY

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COMMERCIAL DESCRIPTION			SB 64	SB 60 SB 62	SB 58	SB 56	SB36
SELF-PROPELLED MACHINE							
Code			DIMENSIONS (mm)				
H1	Height:	w/out cab		3650			3650
H2	(low harvesting header)	with cab	3530	3530	3530		3530
H3	Harvesting header at railings height		3240				
H4	Clearance under harvesting header		from 2000 to 2600				
HB1	Clearance under tilted up containers		1640				
HB2	Tilting axle height		2040				
HB3	Lifted container max. height		5040				
HB4	Height under	2600 l container clearance	1750				
HB5	Height under	3200 l container clearance	1370				
E	Pitch / c/c		2860				
La1	Total width	Containers 2100 l w/out cab	2650				2510
		2100 l + cab	2770				2570
		2600l or 3200 l	3000				2800
La2	Total width	Only self-propelled w/out cab	2560				2360
La3	Total width	Only self-propelled with cab	2790				2590
LaB1	Container width	2100 l	2530				2330
LaB2		2600 l or 3200 l	3000				2800
La AR	Outer width at rear wheels level: (V1 + Gb = La AR)	Tyres 14.9 R 30 Standard (Kléber) (misalign. = 130 mm) Narrow (Kleber) (misal. = 145 mm) Super-Narrow 9.5 R 36 (misal. = 129 mm) Tyres 16.9 R 28 Tyres 480 / 70 R 28 Tyres 540 / 65 R 28 Tyres 580 / 70 R 26 Tyres 600x55x30.5	2000+430 = 2430 2090+480 = 2570 2180+550 = 2730 2130+580 = 2710 2200+600 = 2800				1800+370 = 2170 1750+370 = 2120 2230 1800+250 = 2050
La AV	Outer width at front wheels level: (V2 + Gb = La AV) (V2 at ground level)	Tyres 13.6 R 24 Standard (Goodyear) Narrow (Goodyear) Tyres 420 / 70 R 24	1870+350 = 2220 1870+420 = 2290				1670+350 = 2020 1630+350 = 1980
Lo1	Total length:	w/out cab		5270			5270
Lo2		with cab	5710		5710		
DAV1	Front misalignment:	w/out cab		840			840
DAV2			1280		1280		
DAV3	Front multi-purpose support misalignment		300				
DAR	Rear misalignment		1570				

BASIC SUPPLY

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	THERMAL ENGINE	SB 64 - SB 62		SB 58 - SB 56 - SB 36	
Type		8061 SI 11.05		8040 SI 25.55	
Manufacturer		IVECO AIFO			
Version		Diesel			
Cycle		Alternate			
Stroke number		4			
Number of cylinder and alignment		6 in line		4 in line	
Bore (mm)		104			
Stroke (mm)		115			
Volume (cm ³)		5861		3908	
Compression volume ratio		17.7/1			
Max. net power (CV / kW EEC)		140/103	125/92	108/79.5	
Max. speed (rpm)		2250		2300	
Max. torque (daNm EEC)		61.2		33.9	
Max. torque speed (rpm)		1300		1900	
Max. rotation speed (rpm)		2450		1995=2570 1996=2470	

	THERMAL ENGINE WITH 6 CYLINDERS	SB 60	SB 56 - SB 58
Starting from the series		629A40	from 628018 to 628049
Type		8061 SI 11.05	8061 I 25
Manufacturer		IVECO FIAT	
Version		Diesel	
Cycle		Alternate	
Stroke number		4	
Number of cylinder and alignment		6 in line	
Bore (mm)		104	
Stroke (mm)		115	
Volume (cm ³)		5861	
Compression volume ratio		17,7/1	
Max. net power (CV / kW EEC)		117/86	102/75
Max. speed (rpm)		2250	
Max. torque (daNm EEC)		55	
Max. torque speed (rpm)		1250	
Max. rotation speed (rpm)		2450	2580

	THERMAL ENGINE with 6 cylinders	SB 36	SB 60/62	- SB 64	SB56/58
Starting from the series		627008	629A41		268050
Type		8045SE	8065 SE		
Manufacturer		IVECO FIAT			
Version		Diesel			
Cycle		Alternate			
Stroke number		4			
Number of cylinder and alignment		4	6 in line		
Bore (mm)		104			
Stroke (mm)		115			
Volume (cm ³)		3900	5861		
Compression volume ratio		17.7/1			
Max. net power (CV / kW EEC)		100/73.6	130/95.7	150/110.4	118/86.8
Max. torque speed (rpm)		2300			
Max. rotation speed (rpm)		2475		2450	

BASIC SUPPLY

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COMMERCIAL DESCRIPTION		SB64	SB60 SB62	SB58	SB56	SB36
WEIGHT						
Max. acceptable weight under load (kg)		8000		7900		
Max. acceptable weight on:	Front axle (kg)	3500		3900		
	Rear axle (kg)	4900		4900		
Weight w/out load on:	Total	7670	7180	7580	7090	7600
	Front axle	3290	2970	3140	2820	2900
	Rear axle	4380	4210	4440	4300	4700
Weight of one wheel (kg)	13.6 R 24	105				105
	420/70 R 24	120				120
	14.9 R 30	NO				360*
	16.9 R 28	170				170
	480/70 R 28	175				175
	580/70 R 26	230				NO
Weight of self-propelled machine (kg) with only wheel equipment						
420/70 R 24 and 580/70 R 26		4740	4560	4600	4420	
13.6 R 24 and 14.9 R 30						4600
Thermal engine weight (kg)		510		400		
FEEDING / EXHAUST						
Fuel tank	Used fuel	Diesel oil				
	Capacity (litres)	225				
Engine feeding system		direct injection				
Air cleaner	Manufacturer	DONALDSON		DONALDSON		
	Type	ELB 10-0057		ELB 08-0010		
Noise level in the cab (dBA)		77		81.5		
Engine cooling	Water capacity (l)	20				
	Fan	sucking				
Cooling fan	ø (mm)	610		590 then 610 (1)		

- * with 75% of Chrysogel, that is 207 l. (1) with 6-cylinder engine.

BASIC SUPPLY

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COMMERCIAL DESCRIPTION			SB64	SB60 SB62	SB58	SB56	SB36
MOTION TRANSMISSION							
Engine fan pump	Manufacturer Displacement (cm ³ /rev.) Speed (rpm) empty Capacity (l/min.) output 0.9		SAUER 14/17* 2325 (93% of engine speed) 29/35*				
Fan motor	Manufacturer Displacement (cm ³ /rev.)		SAUER (11) o 12.2				
Variable displacement hydraulic pump (set for an inching speed max. 24.5 km/h)	Manufacturer Type Displacement (cm ³ /rev.) Wheels 13.6 R 24 Wheels 420 / 70 R 24		SAUER 90R100 from 0 to 94.4 (1) from 0 to 89.2		SAUER 90R100 from 0 to 90 (1) from 0 to 85		
Boosting pump	Displacement (cm ³ /rev.) Capacity (l/min.) output 0.9		26 57.3		26 (60) 57.8		
Front wheel motor	Manufacturer Type Displacement (cm ³ /rev.)		POCLAIN MS 08 934				
Rear wheel motor	Manufacturer Type Displacement (cm ³ /rev.)		POCLAIN MSE 18 2500 (1406/1084)				
Max. speed (km/h) on road			(18 km/h) 24.5 km/h (1)				
Max. speed (km/h) on field			11				
Hydraulic oil	Total capacity Tank Type		180 65 OLIO FIAT Hydraulicar HVI 46 or (2) NEW HOLLAND: Hydrosystem 46HV Idraulicar BS 46 Biosynthetic				
Extractor and conveyor pump	Manufacturer Displacement (cm ³ /rev.) Speed rpm empty Capacity (l/min) output 0.9		VICKERS "Load sensing" from 0 to 41/45* 2500 (see engine rpm) 92.2/101.2*				
Shaker/hopper * pump	Manufacturer Displacement (cm ³ /rev.) Speed rpm empty Capacity (l/min) output 0.9		SAUER ou BARNES* 22/19* 2500 (see engine rpm) 49.5/42.75 *				
Steering/lifting * pump	Manufacturer Displacement (cm ³ /rev.) Speed rpm empty Capacity (l/min) output 0.9		SAUER 14/10.8 /14 * 2325 (93% of engine speed) 32/22/32 *				
STEERING			HYDROSTATIC				
Type	production 95 production 96 →		DANFOSS OSPC 125 EATON QAMP 145 cm ³ /rev.				

(1) depending on tyres and countries
(2) see SB no. 191.201 as for the standard

* see application number at the "Hydraulic System" chapter

BASIC SUPPLY

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COMMERCIAL DESCRIPTION		SB64	SB60 SB62	SB58	SB56	SB36
BRAKING						
Service brake		by hydrostatic transmission				
Parking brake (on both rear wheels)		by two pedals linked with a lever				
SLOPE ADJUSTMENT		30%				
PLATFORM CAB						
Conditioned and heated cab		*	Option	*	Option	
Activated charcoal filter		Option				
Board computer		*	*	*	*	*
De luxe seat		*	*	*	*	*
Pneumatic seat		*	Option			
Multi-purpose lever		*	*	*	*	*
Climatization compressor		Sanden U 4643 1900 FIAT LUBRIFICANTI LBAR 134 Add 125 g				
Manufacturer/Model Gas R 134 a (g) Oil SP 20 or SK 20 (cm ³)						
Manufacturer Gas R 134a (g) Oil SP 20 or SK 20 g Speed (rpm)		Seiko 121 DS 3 1900 (2) 125 (3) 2500 (1)				
LIGHTING AND WARNING LIGHTS						
High/low beams		2				
Front position lights		2				
Rear position lights		2				
Direction indicators		Front 2 Rear 2 Side 2				
Brake light		2				
Number plate light		1				
Reflector		Rear 2				
Revolving beacon		w/cab 2 w/out cab 1				
Supply voltage		12 V				

- * = standard
- ** = without locking starting from series – 628040 – 627007
- (1) Instead of 3300 rpm starting from 629051, 628050.
- (2) Instead of 2100 rpm
- (3) To be added without emptying the compressor



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BASIC SUPPLY

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COMMERCIAL DESCRIPTION			SB64	SB 60 SB62	SB58	SB56	SB36	
HARVESTING EQUIPMENT								
HARVESTING HEADER								
Type	Tilting, self-aligning							
System	Shaking S.D.C.							
Shaker number	14 supplied							
Straight/bent control lever	13/1							
Inching	Engine manufacturer	EATON						
	Volume (cm ³ /rev.)	46						
Width position	3							
Clearance under frame (mm)	from 2000 to 2600							
Grape harvesting total height (mm)	1250							
HARVESTING/TRANSPORT								
Noria system:	Buckets per chain	62						
	Synchronised	in field speed						
Elastic stock guide width: (mm) (1)	from 195 to 265					from 165 to 235		
Tightness length (mm)	2100							
Harvesting min. height (mm)	150							
Inching	Engine manufacturer	EATON						
	Displacement (cm ³ /rev.)	243.9/500 (2)						
Conveyors	Width (mm)	600						
	Speed (rpm) max.	about 750						
	Reverse	*						
Only inching	Engine manufacturer	EATON						
	Displacement (cm ³ /rev.)	31.6						
CLEANING								
2 upper extractors with removable stalk-choppers	Diameter (mm)	460						
	Inching	hydraulic						
	Engine manufacturer	SAUER						
	Displacement (cm ³ /rev.)	11						
2 lower extractors with	Diameter (mm)	430		430				
	Inching	Hydr.		Hydr.				
	Engine manufacturer	SAUER	Option	SAUER	Option		NO	
	Displacement (cm ³ /rev.)	6/ (8.4)		6/ (8.4)				
2 independent stalk-choppers	Inching	Hydr.	Option	Hydr.	Option		NO	
	Engine manufacturer	EATON		EATON				
	Displacement (cm ³ /rev.)	8.2		8.2				
	Rotation direction	reverse to the wheels		reverse to the wheels				
HOPPERS								
Capacity	Standard	2600		2100		2100		
	Other version	3200		2600		2600		
				3200				
Electrically controlled distribution auger	Control independent from the harvesting equipment							

(1)According to the bucjet type

(2)See application nmbner in the chapter of the Hy-
draulic system

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