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PERFECT WEIGHT BALANCING BASED ON A GREAT STABILITY

The key words are "stability" and "traction". The machine unloaded weight is distributed for a 40% on the rigid front axle and for a 60% on the oscillating rear one.

With the machine fully loaded, the weight distribution is inverted in order to achieve the **best possible balancing** and assures – together with the two proportional self-lock differentials – a grip without comparison in any situation.

The compact engine, placed in the middle of the chassis, lowers the load centre and reduces the machine dimension.



NEW GENERATION PERKINS ENGINES 1106D

The range is equipped with the **new Perkins engines** 6 cylinder direct injection, turbo wastegate and water cooling: a singular pearl as for power and reliability with no equals on the market.

In line with **Tier3** specifications, these engines are capable to develop a **traction effort** among the most powerful.

Power, torque and reduced noise are winning features: with the maximum torque at 1.400 r.p.m. and maximum power at 1.800 r.p.m., the transmission can provide the highest engine efficiency, in the safest conditions, without reaching the maximum r.p.m.

Perkins 1106-D is a hybrid engine, also supplied by kerosene*, plane fuel and 20% bio diesel.

 $\ensuremath{^{\star}}\text{see}$ Perkins list indicating all the available types of kerosene

TESTED TRANSMISSION, UP TO 30% FUEL CONSUMPTION REDUCTION, LESS TYRES AND BRAKES WEAR

The range has a **hydrostatic transmission Bosch Rexroth** – made according Venieri requirements – representing the last evolution of a project born in 1968, when the company of Lugo was the first in the world to choose this solution for the earth moving machines.

Nowadays this system continues to be efficient, moreover it has been improving performances since its origins.

It is very easy to discharge the engine power on the 4 wheel steering. Moreover, the integration between engine and hydrostatic transmission can reduce fuel consumption up to a 30% (according to its use): one third more of saved fuel than the traditional wheel loaders.

Hydraulic transmission promptly and precisely manages changes of direction, makes possible micrometric distances and adjusts speed selection as the occasion requires. The traction effort and the speed of the machine take step by step – automatically and in the real time – the optimal configuration; the wheel slipping and the tyres wear are limited up to a 25%.

ADAPTABLE TO A WIDE RANGE OF EQUIPMENTS

Together with the quick coupler Venieri, both linkage (parallel for the industrial works, "Z" for the earth moving sector) allow a consistent productive flexibility. Due to a deep-rooted know how, Venieri is able to provide different solutions and personal contribution responding to all kind of work.

Quick and efficient operations for the **highest productivity**.

MAXIMUM RELIABILITY

GREAT FLEXIBILITY

LOW MAINTENANCE COSTS







THE BEST, SIMPLY.

Venieri converts three precise project choices into a competitive advantage: the solidity of the **new**Perkins engines, a hydraulic system improved in technology and the hydrostatic transmission.

In addition, last but not least, a chassis providing the best performances, holding the strongest impact and assuring the lowest load centre.

No use of electronic components in order to achieve the **maximum reliability**: Venieri wheel loaders can work without distinction in a -25° environment or in a $+50^{\circ}$ and over (imagine their performance in standard conditions!). Anywhere you have a breakdown – from Arabic Peninsula to Siberia – a good mechanic and a basic equipment is enough to start again the machine.

The choice to do not use electronic components (the only exception is the electronic engine box allowing a high safety level in all workable conditions) avoids the risk the machine would stop for long periods: the lack of microchips does not involve temperature ranges and violent impacts, and does not require specialised service.

Venieri wheel loaders, instead, need a **simple and cheap maintenance, and spare parts are easily available.** All the components and tool kit are subjected to **detailed quality supervisions**: all spare parts have a long lasting manufacture, but can be easily replaced in case of need.

The **hydraulic system** is equipped with two independent pumps: variable displacement with "unloading valve" for the front loader circuit the first one, and gear pump for the steering circuit with priority valve the second, reaching an excellent turning ratius (80°). Even though the self braking transmission gives to the service brake a supporting role, VF wheel loaders are equipped with efficient **multidisc oil brake acting on the 4 wheels** If constantly stressed, they will last for ever.

Parts subjected to both ordinary and exceptional maintenance are very easy to get and in the safest conditions to operate without troubles.

The engine ultramodern assembly lines of **Perkins** together with the strict supervisions on the productive process guarantee the highest standard of quality: no comparison with the old two valve.

THE QUALITY OF RELIABILITY

IMPROVED HYDRAULICS

MINIMUM BRAKE WEAR AND MECHANICAL PARTS

> EASY MAINTENANCE

PERKINS
WORLDWIDE

CUSTOMER CARE







WIDE SPACE AND VISIBILITY INSIDE THE CABIN

Let's go on board the cabin to realize **comfort and wide working space**, with all the controls easily reachable and correctly placed, **excellent visibility** to any direction – above all to the bucket – and **very good soundproofing**.

IMPROVED AND ERGONOMIC CABIN DESIGN

The driving seat and the steering-column are adjustable, allowing to the operator to find the best position and to keep it for a long time. The big windows increase the perception of the inside space. The dashboard instrument is simple to use and functional. The analogical indicators provide all the parameters and the machine status, which can be driven easily.

Low noise and limited vibration thanks to the continuously variable transmission without stopping the traction effort.

Moreover, **standard air conditioning, radio player and bluetooth**: such working environment allows the operator to work all day long in no stress condition.

CONTINUOUSLY VARIABLE TRANSMISSION RELATED TO TRAVEL RIDE CONTROL

(OPTIONAL)

Undetectable gear shifts, continuous traction effort:

the continuously variable transmission increase the driving comfort, reducing the impacts on chassis and inside the cabin. The travel ride control allows the lifting arms oscillation during transport, further improves the load

retention and comfort, in order to achieve the highest productivity.

MULTIFUNCTIONAL JOYSTICK

The multifunctional joystick allows to control all the principal functions. The left hand moves the steering while the right one lifts/brings down the bucket, fills and empties, brings it to the automatic position, activates the transmission selecting the gear and starts up the supplementary equipments.





WHEEL LOADER → Z-LINKAGE

▶ DIESEL ENGINE

Engine: 6 cylinder, intercooler turbo-charged, direct injection, water cooling, paper dry filter and cyclone prefilter

Emissioned according to CEE 97/68 – stage IIIA.

Type	Perkins 1106D-E66TA
Max power	110 kW - 150 HP
Rated rpm	2200
Net power ISO/TR 14396	107 kW - 146 HP
Net power EEC/80/1269	107 kW - 146 HP
Displacement	6.600
Bore	mm 105
Stroke	mm 127

▶ ELETRIC SYSTEM

Battery	12 Volt
Capacity	200 Ah - 1350 A
Alternator rating	110 A
Reverse warning	Standard
Wiring according to	IP 67 - DIN 40050

▶ TRANSMISSION

Hydrostatic transmission with automatic power regulation and closed circuit with variable displacement pump and motor.

Three forward/reverse automatic speeds with a single electric gear.

Three forward/reverse automatic speeds with a single electric gear selector.

		forward	reverse
1 st	speed km/h	0÷8	0÷8
2 nd	speed km/h	0÷17	0÷17
3 rd	speed km/h	0÷40	0÷40

▶ AXLES

Heavy Duty axles with planetary final driver on each wheel and automatic proportional self locking differentials Rigid front axle

Oscillating rear axle up to a total angle of 25°.

Transfer gearbox transferring movement directly to the rear and to the front axle via transmission shafts.

Standard self locking differential on front axle, optional on rear.

▶ BRAKE SYSTEM

Service: hydraulic multidisc oil brake on front axle working on all the wheels.

Parking brake: negative hydraulic on rear, electrically applied.

▶ TYRES

Standard				20	0.5 - 25 16 pr
Optional	20.5 R 25	1	17.5 R 25	-	555/70 R 24

▶ STEERING

Servo-assisted steering LOAD SENSING system	
Steering angle	80°
Inner tyres turning radiusmm	3.130
	5.500
External bucket turning radiusmm	6.050



Made of two pumps, variable displacement with power control for the front loader circuit the first one, and gear pump for the steering circuit the second.

Modular two-element control valve with main relief valve

Double acting hydraulic cylinders

Hydraulic oil filter on the leakage pipe

Single servo-lever arm control with 4 position lifting system and with 3 position bucket system.

Max flow	lt/1'	150
Loader relief valve pressure	bar	280
Steering relief valve pressure	bar	175
Lift cylinder	mm	110x750
Bucket cylinder	mm	130x455
Cycle time	sec	8,5

▶ SERVICES CAPACITIES

Enginek	g 16
Gearboxk	g 3,3
Differential k	g 12
Planetary final drive k	g 1,8
Hydraulic circuit k	g 170
Brake system k	g 1
Fuel It	260
Water cooling It	20

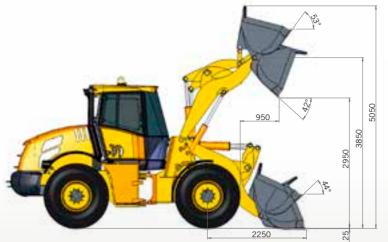
▶ TECHNICAL FEATURES

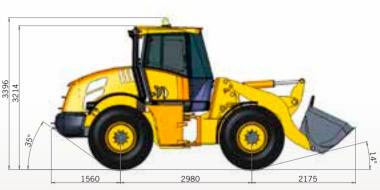
Standard bucket capacity m Bucket width m Straight static tipping load k Full turned 40° tipping load k Lifting capacity at max. height k Dump clearance m Dump height at 42° m Reach at 42° m	nm 2.480 gg 9.700 gg 8.600 gg 8.900 nm 3.850 nm 2.950
	nm 950

▶ DIMENSIONS AND WEIGHT

Max leghth in transfer position	mm	6.715
Max width in transfer position	mm	2.480
Height	mm	3.214
Track width	mm	1.850
Overall tyre width	mm	2.380
Wheel base	mm	2.980
Ground clearance	mm	455
Standard operating weight	kg	12.300
Max operating weight	kg	13.300

The illustrations on the present folder do not necessarily show the product standard version. Data and dime sions described in this folder are not binding. Venieri reserves the right of carrying out possible chang at any time and without previous notice because of its policy of steady developement and improvement





▶ DIMENSIONS

/ 2			
Height cabin ROPS	mm 3214	Total bucket width	mm 2380
Wheel base	mm 2980	Track width	mm 1850
Ground clearance	mm 455	External turning radius	mm 5500
Loading ramp angle	35°	Rear axle oscillation	10°+10°









► PERFORMANCE DATA		STANDARD	ROCK	OVERSIZE	EXTRA OVERSIZE
Full load bucket capacity	m ³	2,2	1,7	2,5	3,0
Bucket width	mm	2480	2480	2540	2800
Bucket weight	kg	800	700	850	950
Max operative height	mm	5050	5000	5125	5200
Bucket pin height	mm	3850	3850	3850	3850
Dump clearance	mm	42°	42°	42°	42°
Dump height	mm	2950	3000	2900	2866
Dump distance	mm	950	894	1006	1043
Max dump distance	mm	2005	1949	2061	2098
Straight tipping load	kg	9700	10000	9200	9000
Full turned tipping load	kg	8600	8800	8100	7800
Breakout force	kg	12800	13900	11900	11409
Total length	mm	6900	6850	6975	7050
External bucket turning radius	mm	6050	6025	6131	6253
Total weight	kg	12300	12200	12350	12450

► LOADING FORK (Kg) - CENTRE OF GRAVITY 500	mm		
Static tipping load, full turn	6400	Payload EN 474-3 (60%)	3850
Payload EN 474-3 (80%)	5150	Payload DIN 24094 (50%)	3200





WHEEL LOADER → PARALLEL LINKAGE

▶ DIESEL ENGINE

Engine: 6 cylinder, intercooler turbo-charged, direct injection, water cooling, paper dry filter and cyclone prefilter

Emissioned according to CEE 97/68 – stage IIIA.

Type	Perkins 1106D-E66TA
Max power	110 kW - 150 HP
Rated rpm	2200
Net power ISO/TR 14396	107 kW - 146 HP
Net power EEC/80/1269	107 kW - 146 HP
Discplacement	cm ³ 6.600
Bore	mm 105
Stroke	mm 127

▶ ELETRIC SYSTEM

Battery	12 Volt
Capacity	200 Ah - 1350 A
Alternator rating	100 A
Reverse warning	Standard
Wiring according to	IP 67 - DIN 40050

▶ TRANSMISSION

Hydrostatic transmission with automatic power regulation and closed circuit with variable displacement pump and motor.

Three forward/reverse automatic speeds with a single electric gear selector.

		forward	reverse
1 st	speed km/h	0÷8	0÷8
2 nd	speed km/h	0÷17	0÷17
3 rd	speed km/h	0÷40	0÷40

▶ AXLES

Heavy Duty axles with planetary final driver on each wheel and automatic proportional self locking differentials Rigid front axle

Oscillating rear axle up to a total angle of 25°.

Transfer gearbox transferring movement directly to the rear and to the front axle via transmission shafts.

Standard self locking differential on front axle, optional on rear.

▶ BRAKE SYSTEM

Service: hydraulic multidisc oil brake on front axle working on all the wheels.

Parking brake: negative hydraulic on rear, electrically applied.

▶ TYRES

Standard				20	0.5 - 25 16 pr
Optional	20.5 R 25	1	17.5 R 25	1	555/70 R 24

▶ STEERING

Servo-assisted steering LOAD SENSING system	
Steering angle	80°
Inner tyres turning radiusmm	3.130
External tyres turning radiusmm	5.500
External bucket turning radius	6.050



► HYDRAULIC SYSTEM

Made of two pumps, variable displacement with power control for the front loader circuit the first one, and gear pump for the steering circuit the second.

Modular two-element control valve with main relief valve

Double acting hydraulic cylinders

Hydraulic oil filter on the leakage pipe

Single servo-lever arm control with 4 position lifting system and with 3 position bucket system.

Max flow	lt/1'	150
Loader relief valve pressure	bar	280
Steering relief valve pressure	bar	175
Lift cylinder	mm	110x769
Bucket cylinder	mm	80x850
Cycle time	sek	10,0

▶ SERVICES CAPACITIES

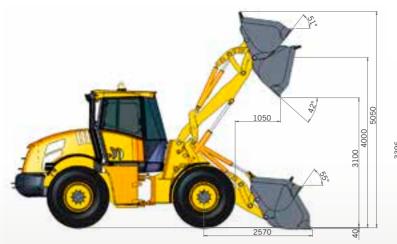
Engine	kg :	16
Gearbox	kg 3	,3
Differential	kg :	12
Planetary final drive	kg 1	,8
Hydraulic circuit	kg 17	70
Brake system	kg	1
Fuell	t 26	50
Water cooling	t 2	20

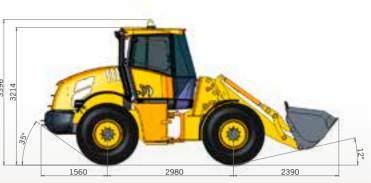
▶ TECHNICAL FEATURES

▶ DIMENSIONS AND WEIGHT

Max leghth in transfer position	mm	6.930
Max width in transfer position	mm	2.480
Height	mm	3.214
Track width	mm	1.850
Overall tyre width	mm	2.380
Wheel base	mm	2.980
Ground clearance	mm	455
Standard operating weight	kg	12.500
Max operating weight	kg	13.500

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DIMENSIONS

, 22			
Height cabin ROPS	mm 3214	Total bucket width	mm 2380
Wheel base	mm 2980	Track width	mm 1850
Ground clearance	mm 455	External turning radius	mm 5500
Loading ramp angle	35°	Rear axle oscillation	10°+10°









▶ PERFORMANCE DATA		STANDARD	ROCK	OVERSIZE	EXTRA OVERSIZE
Full load bucket capacity	m ³	2,2	1,7	2,5	3,0
Bucket width	mm	2480	2480	2540	2800
Bucket weight	kg	800	700	850	950
Max operative height	mm	5050	5000	5125	5200
Bucket pin height	mm	4000	4000	4000	4000
Dump clearance	mm	42°	42°	42°	42°
Dump height	mm	3100	3200	3100	3067
Dump distance	mm	1050	938	1050	1087
Max dump distance	mm	2175	2063	2175	2212
Straight tipping load	kg	9100	9400	8800	8600
Full turned tipping load	kg	8000	8400	7800	7400
Breakout force	kg	9500	11176	9500	9087
Total length	mm	7000	6875	7075	7150
External bucket turning radius	mm	6050	6000	6080	6218
Total weight	kg	12500	12400	12550	12650

► LOADING FORK (Kg) - CENTRE OF GRAVITY 500	mm		
Static tipping load, full turn	6500	Payload EN 474-3 (60%)	3900
Payload EN 474-3 (80%)	5200	Payload DIN 24094 (50%)	3250





133.53

WHEEL LOADER → Z-LINKAGE

▶ DIESEL ENGINE

Engine: 6 cylinder, intercooler turbo-charged, direct injection, water cooling, paper dry filter and cyclone prefilter

Emissioned according to CEE 97/68 – stage IIIA.

Perkins 1106D-E66TA
130 kW - 177 HP
2200
123 kW - 167 HP
123 kW - 167 HP
cm ³ 6.600
mm 105
mm 127

▶ ELETRIC SYSTEM

Battery	12 Volt
Capacity	200 Ah - 1350 A
Alternator rating	110 A
Reverse warning	Standard
Wiring according to	IP 67 - DIN 40050

▶ TRANSMISSION

Hydrostatic transmission with automatic power regulation and closed circuit with variable displacement pump and motor.

Three forward/reverse automatic speeds with a single electric gear selector.

		forward	reverse
Lst	speed km/h	0÷8	0÷8
2 nd	speed km/h	0÷17	0÷17
3 rd	speed km/h	0÷40	0÷40

▶ AXLES

Heavy Duty axles with planetary final driver on each wheel and automatic proportional self locking differentials Rigid front axle

Oscillating rear axle up to a total angle of 25°.

Transfer gearbox transferring movement directly to the rear and to the front axle via transmission shafts.

Standard self locking differential on front axle, optional on rear.

▶ BRAKE SYSTEM

Service: hydraulic multidisc oil brake on front axle working on all the wheels.

Parking brake: negative hydraulic on rear, electrically applied.

▶ TYRES

Standard	20.5 - 25 16 pr
Optional	20.5 R 25 620/70 R 26

▶ STEERING

Servo-assisted steering LOAD SENSING system	
Steering angle	80°
Inner tyres turning radiusmm	3.130
External tyres turning radiusmm	5.500
External bucket turning radius	6.150



Made of two pumps, variable displacement with "P.C.S." power control for the front loader circuit the first one, and gear pump for the steering circuit the second.

Modular two-element control valve with main relief valve

Double acting hydraulic cylinders

Hydraulic oil filter on the leakage pipe

Single servo-lever arm control with 4 position lifting system and with 3 position bucket system.

Max flow	lt/1'	175
Loader relief valve pressure	bar	280
Steering relief valve pressure	bar	175
Lift cylinder	mm	120x750
Bucket cylinder	mm	130x485
Cycle time	sec	9,5

SERVICES CAPACITIES

Engine kg	16
Gearboxkg	3,2
Differential kg	14
Planetary final drive kg	1,8
Hydraulic circuit kg	170
Brake circuit kg	1
Fuel	260
Water cooling It	25

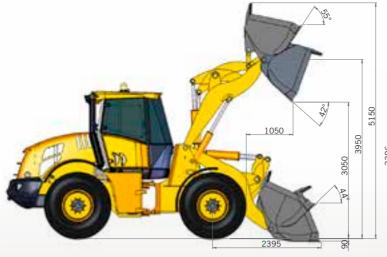
▶ TECHNICAL FEATURES

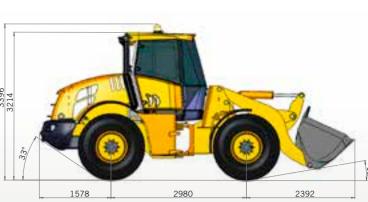
Standard bucket capacity	m^3	2,7
Bucket width	mm	2.540
Straight static tipping load	kg	10.800
Full turned 40° tipping load	kg	9.600
Lifting capacity at max. height	kg	10.500
Dump clearance	mm	3.950
Dump height at 42°	mm	3.050
Reach at 42°	mm	1.050
Breakout force	kg	12.000

▶ DIMENSIONS AND WEIGHT

Max leghth in transfer position	mm	6.950
Max width in transfer position	mm	2.540
Height	mm	3.214
Track width	mm	1.850
Overall tyre width	mm	2.380
Wheel base	mm	2.980
Ground clearance	mm	455
Standard operating weight	kg	13.700
Max operating weight	kg	14.600

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DIMENSIONS

Height cabin ROPS	mm 3214	Total bucket width	mm 2380
Wheel base	mm 2980	Track width	mm 1850
Ground clearance	mm 455	External turning radius	mm 5500
Loading ramp angle	33°	Rear axle oscillation	10°+10°









► PERFORMANCE DATA		STANDARD	ROCK	OVERSIZE	EXTRA OVERSIZE
Full load bucket capacity	m ³	2,7	2,2	3,0	3,5
Bucket width	mm	2540	2540	2540	2800
Bucket weight	kg	900	850	950	1000
Max operative height	mm	5150	5100	5225	5300
Bucket pin height	mm	3950	3950	3950	3950
Dump clearance	mm	42°	42°	42°	42°
Dump height	mm	3050	3100	3017	2983
Dump distance	mm	1050	994	1087	1124
Max dump distance	mm	2025	1969	2062	2099
Straight tipping load	kg	10800	11000	10400	10200
Full turned tipping load	kg	9600	9700	9200	9000
Breakout force	kg	12000	12973	11478	11000
Total length	mm	7000	6975	7075	7150
External bucket turning radius	mm	6150	6125	6200	6314
Total weight	kg	13700	13650	13750	13800

► LOADING FORK (Kg) - CENTRE OF GRAVITY 500	mm		
Static tipping load, full turn	7000	Payload EN 474-3 (60%)	4200
Payload EN 474-3 (80%)	5600	Payload DIN 24094 (50%)	3500







- Acoustic warnings
- Plugs with keys for fuel and hydraulic tanksBucket with bolted teeth
- ROPS-FOPS- cab with heater, pressurizerer circulating fan, with front and rear windscreen wiper and windshield washer
- Tool box
- Spare parts catalogue
- Seat belt
- Limited slip differential on front axle
- Safety clamp for lifting cylinders

- Visual index for bucket position
- Working lights
- Draw bar hook
- Soundproofing
 Yellow rotating and overturning beacon
 Operation and maintenance manual
 Type-approval for road traffic

- Side rearview mirrors
- Complete instrument board

OPTIONAL EQUIPMENT

- Hydraulic or mechanical quick coupler
- Cement mixing bucket
 Multipurpose bucket (4 in 1)
 Speed reduction kit
- Lifting forks
- Proportional self lock rear differential
- Asphalt and cement planer

- Snow blower
- "V" type snow blade
- Angle-tilt dozer blade
- Hand operating hammer
- Polishing brush
- Trencher wheel

