

WILSON

STATIC DIESEL ROAD ROLLER

8-10 TON CAPACITY

Model
WDR
8/10



MANUFACTURER
&
EXPORTER OF
ROAD CONSTRUCTION
PLANT AND EQUIPMENTS

**RUGGED DURABLE ECONOMICAL
AND FOR TROUBLE FREE
SERVICE ON ANY TERRAIN**

Available under D.G.S. & D. Rate contract

**Roads...
Lets build them**

AN ISO 9001 : 2008 COMPANY



Introduction

WILSON ENGINEERING is primarily a Company manufacturing and supplying components of various Construction and Heavy Engineering Machinery. The extensive experience and expertise thus achieved have been put into use in designing our own Dead Weight Diesel Road Roller, a design which combines the best elements to ensure robust construction, high quality and most satisfactory performance even in extreme working conditions and is, above all, cost effective.

General Description

Model WDR 8/10 is Diesel Road Roller of 8 to 10 ton capacity. The increase in weight from 8 to 10 ton is achieved by loading the front and rear rolls with water/sand. The Roller is fitted with electrical starting system. Decompressure arrangement can be incorporated for hand cranking. The Road Roller is fitted with a 3 (Three) Speed Gear Box with differential lock arrangement. All controls are within easy reach of the operator. The rolls are of mild steel plates electrically welded and hubs are provided with renewable bushes. Adjustable scrapers are provided which cover full width of rolls. Gravity fed water sprinklers are provided on each rolls. Cocks for supply of water from tank to the sprinkler pipes are fixed near the driver's seat. Fabricated robust steel sheet awning properly insulated from heat with end and side curtains provided. The Roller is completely covered by side and end plates and bonnets made from steel sheet. Two louvred side doors ensure easy access to the engine and better air circulation. Steel towing attachment is fabricated/ fixed to the main frame. Electric lights suitable for night operation/travelling are provided.

Unit

The complete delivery set of the Road Roller consists of the following:-

- One Hydraulic/Mechanical jack of 10 Ton Capacity.
- Set of Standard Tools
- Grease Gun and Oil Can One No. Each
- One set of Parts Catalogue and Operation & Maintenance Manual of Road Roller
- One set of Parts Catalogue & Maintenance Manual of Engine.

Special Features

FRAME

The frame in this design takes all the load and is constituted of full length steel plates of sufficient thickness, with built-in water tank and crossbracing. Side plates are very deep preventing any distortion. Rear Axle brackets/Drive Pinion housing are mounted on the frame. Front Steering roll is fixed to the frame through a heavy "Fore carriage" bolted at the front end of the frame.

TRANSMISSION

The Engine is mounted on the frame supported by suitably constructed brackets & bracings. The gear box and engine as a whole constitute One Unit and the gear box driving end gets its support on the engine through a housing of sturdy construction. The other end gets supported by the frame through the driving pinion shaft housing.

This method keeps these vital units in perfect alignment.

The Special features of the Gear Box are:

- Iron Casting/Steel fabricated box (Stress relieved)
- Splash lubrication
- 3 speed gear system

All vital points of gear box are provided with suitable oil seals to make the unit leakproof. Shafts are of H.T. Steel and all vital gears and pinions are of high grade alloy steel suitably heat-treated and tempered. Bevel type Differential Gear is enclosed in Gear box with locking arrangement operated from driver's seat.

CLUTCH SYSTEM

Two over centre type single plate clutches have been provided on the two sides of the Gear Box operated by a single hand lever, forward and reverse movement of which gives a corresponding direction of travel to the Roller. These are accessible for inspection, adjustment and maintenance by opening cover doors provided on the both sides of the frame. Operation linkages are also accessible for any adjustment. Replacement of Clutch facing is very simple and can be done within a very short time.

STEERING

The steering fork is provided with taper roller bearing which is fitted on the lower end of the Fork Shaft to take up the vertical load and reduce the steering effort. This is further reduced by providing Thrust Bearing in the work shaft which is operated through a bevel gear and pinion, steering rod and steering wheel.

Steering worm segment is fixed on the Fork Shaft through a bracket.

The complete steering mechanism is easily accessible for inspection/maintenance by opening the bonnets.

BRAKES

i) Parking Brake

Contracting Band type acting on the machined outer surface of the Ring Gear fixed to the rear roll on both the sides, operated by hand wheel.





ii) Foot Brake

This is an expanding shoe type brake, actuated by links and operated by the driver's foot. The Drum of the brake is keyed to the inter shaft of the gear box.

FINAL DRIVE

The driving pinions on the shaft mounted in gear box mesh with the internal teethed ring gear on rear roll on both the sides of the roller, provide uniform torque on the rolls. All gear and pinions are machine cut. Rolls rotate on Dead Axle which is supported on brackets fitted to the frame.

PRESSURE BALANCING DEVICE

The Roll pressure is measured in kilograms per centimeter length of line contact of roll to earth and is indicated as kg/cm. A sliding weight moving along the angles welded to the side plates of the main frame provides variable pressure on both the front and rear rolls.

OVERALL DIMENSIONS

1. Rolling Width	1830 mm	(±10)
2. Dia of Rear Roll	1448 mm	(± 5)
3. Width of Rear Roll	508 mm	(± 5)
4. Dia of Front Roll	1016 mm	(± 5)
5. Width of Front Roll	508 mm	(± 5)
6. Wheel Base	2912 mm	(±10)
7. Height with awning cabin	2625 mm	(± 2%)
8. Height without awning cabin	1985 mm	(± 2%)
9. Overall Length	4800 mm	(± 2%)
10. Turning Radius (From outer periphery on front Roll)	5500 mm	(± 2%)
11. Ground Clearance	455 mm	(±10)
12. Rim Thickness of Rolls	32 mm	(± 2%)
Standard tolerance :	± 5% on above dimensions	

WEIGHTS

Unballasted	8.00 ± 5% M. T.
Water Ballasted	9.00 ± 5% M. T.
Sand Ballasted	10.00 ± 5% M. T.

LINE PRESSURE ON FRONT AND REAR ROLLS

	FRONT	REAR
Unballasted	30.58 kg/cm	47.81 kg/cm ± 5%
Water Ballasted	34.40 kg/cm	54.64 kg/cm ± 5%
Sand Ballasted	37.43 kg/cm	60.17 kg/cm ± 5%

SPEED

Forward	2.20 km/hr.	3.20 km/hr	6.00 km/hr	± 5%
Reverse	2.20 km/hr.	3.20 km/hr	6.00 km/hr	± 5%

GRADIENT (Normal site condition) 1 : 5

CAPACITIES

Fuel Tank	80 Litres
Water Tank (Sprinkler)	216 Liters

FUEL CONSUMPTION

At normal output	0.22 Ltrs. /BHP/Hr. ±5%
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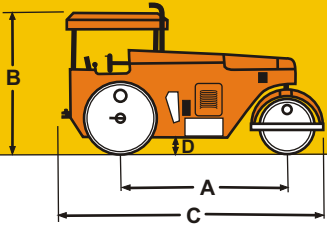
ENGINE

Lubricating system	Forced feed system
Lubricating Oil Consumption	Max. 0.1 Ltr. /Hr.
Lubricating Oil Recommended	SAE 30/40

ROLLER LUBRICATION

Grease	SERVO 140 No. 2/MP
Oil	SERVO 140 AT 90°F and above. SERVO 90 AT 90°F and below.
General	SERVO 30 /20 / 10

SINCE OUR POLICY IS CONSTANT DEVELOPMENT TO IMPROVE QUALITY, WE RESERVE THE RIGHT OF MODIFICATION WITHOUT PRIOR NOTICE AND WITHOUT ANY BINDING ON FOR SUCH MODIFICATION ON THE EQUIPMENT ALREADY SUPPLIED.



WDR 8/10	A	B	C	D
MM	2912	2625	4800	455
IN	115	103	189	17

ENGINE	S433
MAKE	SIMPSONS
TYPE	Four cylinder, Water-cooled, Fore stroke diesel
DISPLACEMENT	3330 cc
ELECTRICAL	12 Volt
BHP (Continuous @ 1500 RPM)	37
GEAR BOX	Three forward and three reverse speeds
CLUTCH	Two over centre type single plate dry friction clutches for forward and reverse travel operated by a single lever, easy accessible for maintenance, adjustment and replacement of clutch plates.

BRAKES

PARKING BRAKE	Contracting band type acting on the machined outer surface of the ring gear fixed to the rear wheels on both sides and operated by hand wheel.
TRANSMISSION BRAKES	Expanding shoe type brake, actuated by links and operated by the driver's foot.

OVERALL DIMENSIONS

Rolling width	1830 mm
Dia of Rear Roll	1448 mm
Width of Rear Roll	508 mm
Dia of Front Roll	1016 mm
Width of Front Roll	508 mm
Wheel Base	2912 mm
Height with awning cabin	2625 mm
Height without awning cabin	1985 mm
Overall Length	4800 mm
Turning Radius (From outer periphery on front Roll)	5500 mm
Overlapping of rolls	105 mm
Space required for turning	11 meters

WEIGHTS

Unballasted	8.00 ± 5% M. T.
Water Ballasted	9.00 ± 5% M. T.
Sand Ballasted	10.00 ± 5% M. T.

SPEED

Forward and Reverse	2.20 km/hr. , 3.20 km/hr , 6.00 km/hr
Fuel consumption	0.22 ltrs. /bhp /hr. ± 5%

GRADIENT (Normal site condition)	1 : 5
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FILLING CAPACITIES

Fuel Tank	80 Liters
Water Tank (Sprinkler)	216 Liters

OPTIONAL FEATURES

Hydraulic Steering, Pressure Water Sprinkler, Cold Starting Device, Scarifier and Operator Cabin

* Due to continuous improvement being made from time to time, all the specifications, motor ratings, design are subject to change without prior notice.



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