



Euclid R50



MAXIMUM GMW
198,400 lbs. (90 000 kg)

PAYLOAD RANGE
50.0 TO 58 TONS
(45.4 TO 52.7 TONNES)

WET DISC BRAKES

**TWO MAN INTEGRAL
ROPS/FOPS CAB**

**HIGH HARDNESS,
HIGH STRENGTH
STEEL BODY**

ATEC SHIFT CONTROLS

NEOCON SUSPENSION

**TWO AVAILABLE
DIFFERENTIAL RATIOS**

**SEPARATE HYDRAULIC
RESERVOIRS FOR
STEERING,
BRAKE COOLING
AND HOIST,
TRANSMISSION**

EUCLID



ENGINES

Make	Standard Cummins	Optional Cummins
Model	KTTA19-C	VTA28-C
Type	4 Cycle	4 Cycle
Aspiration	Turbocharged Aftercooled	Turbocharged Aftercooled
Rated Output		
(SAE @ 2100 rpm)	675 bhp (504 kW)	675 bhp (504 kW)
Flywheel Output		
(SAE @ 2100 rpm)	641 bhp (478 kW)	641 bhp (478 kW)
No. Cylinders	6	12
Bore & Stroke	6 1/4" x 6 1/4" (159 mm x 159 mm)	5 1/2" x 6" (140 mm x 152 mm)
Displacement	1150 in ³ (18.8 litres)	1710 in ³ (28.0 litres)
Max. Torque		
@ 1400 rpm	1990 lb ft (2698 N•m)	
@ 1300 rpm		1990 lb ft (2698 N•m)
Starting	Electric	Electric



TRANSMISSION

Allison CLT-6062. Planetary type, full automatic shift. Integral torque converter with automatic lock-up to lock-up shifting in all ranges. Remote mounted, 6 forward speeds, 1 reverse. Allison Transmission Electronic Control (ATEC) shift system.

Maximum Speeds @ 2100 RPM Governed Engine Speed

Range	Gear Ratio	Standard 3.73:1 Differential		Optional 3.15:1 Differential	
		mph	(km/h)	mph	(km/h)
1	4.00	5.65	(9.08)	6.68	(10.76)
2	2.68	8.43	(13.56)	9.98	(16.05)
3	2.01	11.23	(18.08)	13.30	(21.40)
4	1.35	16.13	(26.91)	19.81	(31.81)
5	1.00	22.58	(36.33)	26.74	(34.02)
6	0.67	33.70	(54.23)	39.91	(64.21)
R	5.12	4.41	(7.10)	5.22	(8.40)



DRIVE AXLE

Full floating axle shafts, double reduction provided by Euclid Model 2350 differential and single reduction planetary with balanced life gears in each wheel.

Ratios	Standard	Optional
Differential	3.73:1	3.15:1
Planetary	5.80:1	5.80:1
Total Reduction	21.63:1	18.27:1
Maximum Speeds		
with 21.00-35 Tires	33.7 mph (54.2 km/h)	39.9 mph (64.2 km/h)
with 24.00-35 Tires	35.8 mph (57.6 km/h)	42.4 mph (68.2 km/h)



TIRES

Standard - Front and Rear	Rim Width
Goodyear 21.00-35(32)E-3	15" (381mm)
Optional - Front and Rear	
Goodyear 24.00-35(36)E-3	17" (432 mm)
Plus optional Goodyear tire types, treads and ply ratings.	



ELECTRICAL

Twenty-four volt lighting and accessories system. 75 amp alternator with integral transistorized voltage regulator. Two 12 volt heavy duty batteries connected in series.



LOAD CAPACITY

Struck (SAE)	yd ³	(m ³)
Heap 3:1	32.1	(24.6)
Heap 2:1 (SAE)	40.4	(30.9)
Heap 2:1 (SAE)	44.6	(34.1)
Payload	Ton	(Tonne)
Maximum	58.0	(52.7)



WEIGHTS

Chassis with Hoists	lb	(kg)
Body	60,075	(27 250)
Body	21,550	(9 775)
*Net Machine Weight	81,625	(37 025)
Front Axle	39,482	(17 909)
Rear Axle	42,143	(19 116)
Maximum GMW with Selected Tires		
21.00-35(32)E-3		
Max. Gross Machine Weight	183,540	(83 250)
*Net Machine Weight	81,625	(37 025)
Maximum Payload	101,915	(46,225)
24.00-35(36)E-3		
Max. Gross Machine Weight	198,400	(90 000)
*Net Machine Weight	84,047	(38 124)
Maximum Payload	114,353	(51 876)
21.00-35(36)E-3		
Max. Gross Machine Weight	198,030	(89 830)
*Net Machine Weight	81,925	(37 161)
Maximum Payload	116,105	(52 669)
Machine weight based on 50% fuel		
Maximum gross machine weight not to exceed, (including options, fuel and payload.)	198,400	(90 000)

Options / *Approximate change in net machine weight

Body Liners, 400 BHN Steel, Complete:	6,430	(2 917)
3/8" (10mm) floor		
1/4" (6mm) sides, front and canopy		
3/8" (10 mm) top rails		
Body Liners, 400 BHN Steel, Complete:	8,730	(3 960)
1/2" (13mm) floor		
5/16" (8mm) sides and front		
1/4" (6mm) canopy		
3/8" (10mm) top rails		
Tires, set of 6:		
21.00-35(36)E-4	1,310	(600)
24.00-35(36)E-4	3,792	(1 720)
Engine: VTA28-C	2,000	(907)



STEERING

Closed-center hydraulic system with separate reservoir. Hydrostatic power steering using two double acting cylinders and independent gear pump. Supplementary steering provided by electric motor/pump in accordance with SAE J53 and ISO 5010.

Steering Angle	39°
Turning circle (SAE)	61'5" (18.7m)
Steering Pump Output (@ 2100 rpm)	33 g/m (125 l/m)
System Relief Pressure	2500 psi (17 237 kPa)



HYDRAULICS

Two (2) Euclid two-stage, double-acting cylinders, inverted and outboard mounted. Separate reservoir and independent tandem gear pump. Control valve mounted on reservoir.

Body Raise Time	19 sec.
Brake Cooling Pump Output	79 g/m (299 l/m)
Hoist Pump Output	79 g/m (299 l/m)
System Relief Pressures	2500 psi (17 237 kPa)



AIR

Compressor	13.2 cfm (6.2 l/s)
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Service Air

Pressure	125 psi (860 kPa)
Reservoir Capacity	5.2 ft ³ (147 litres)

Warning: Wig-wag alarm in cab activated when pressure drops to 90 psi (620 kPa).



BRAKES

Service

Air/oil actuated front disc brakes with two calipers per front disc. Calipers are internally ported, each containing three pairs of opposing pistons. Rear brakes are oil-cooled wet discs. Provide stopping capability conforming to SAE J1473 and ISO 3450.

Front Axle—BFGoodrich Dry Disc

Disc Diameter Each	27 in (68.6 mm)
Lining Area Per Axle	300 in ² (1 935 cm ²)
Brake Pressure (Max.)	2300 psi (15 859 kPa)

Rear Axle—VME Oil-Cooled Wet Disc

Brake Surface Area Per Axle	7712 in ² (49 758 cm ²)
Brake Pressure (Max.)	1000 psi (6 895 kPa)

Secondary

Two independent circuits within the service brake system provide secondary stopping capability conforming to SAE J1473 and ISO 3450. System is manually or automatically applied to stop machine.

Parking

Drum, two shoe internal expanding type mounted behind transmission. Spring applied, manually controlled from instrument panel. In accordance with SAE J1473 and ISO 3450.

Size	12" x 5" (305 mm x 127 mm)
Lining Area	150 in ² (969 cm ²)

Retarder

Foot operated valve controls air/oil actuation of oil-cooled wet disc brakes on rear axle.

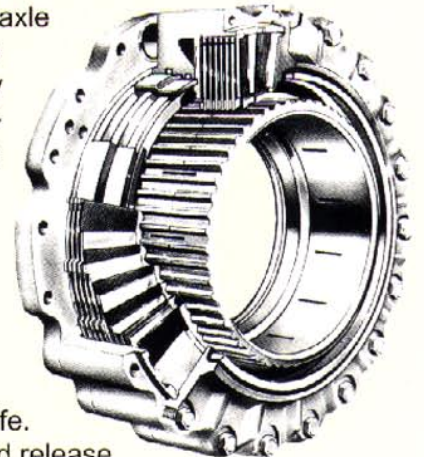
Capacity (Continuous)	700 bhp (522 kW)
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WET DISC BRAKE

The Euclid wet disc brake is engineered for long service life even in the most extreme environments.

The wet disc brakes are located on the rear axle and provide service braking, emergency braking, and retarding. The brakes are of a multi-plate design, constantly oil-cooled. The sealed design protects against environmental contamination for prolonged service life.



Both application and release of the brake is accomplished through a hydraulically controlled piston. This simplified system does not require springs or other mechanical components resulting in reduced maintenance.

As a service brake, it incorporates VME's philosophy of system separation; the service brake actuation is totally separate from the retarder actuation. Both service braking and retarder functions are accomplished utilizing separate pedals. This allows the operator to activate the brakes or the retarder without removing his hands from the steering wheel.

The R50 utilizes dry disc front brakes in conjunction with the wet disc rear brakes for proportioned braking action.



FRAME

Box section main rails bridged by three cross members, front bumper and front suspension tube. Rail depth is constant taper rear to front. Two rear cross members are castings with integral body, suspension and drive axle mountings. Cross members to frame junctions use large radii to minimize stress. Frame utilizes 45,000 psi (310 N/mm²) yield strength alloy steel.

STANDARD EQUIPMENT

General

Air horns, dual	Mirrors, right and left
Allison Transmission	Mud flaps
Electronic Control (ATEC)	Neocon suspension
Body down indicator, mechanical	Operator arm guard
Body prop cable	Park brake interlock
Canopy spill guard	Radiator grille guard
Continuous heated body	Reverse alarm
Electric start	Rock ejector bars
Fan guard	Steering tank sight gauge
Hoist interlock	Supplementary steering system, electric
Hoist tank sight gauge	Tow hooks, front
	Transmission sight gauge

Cab

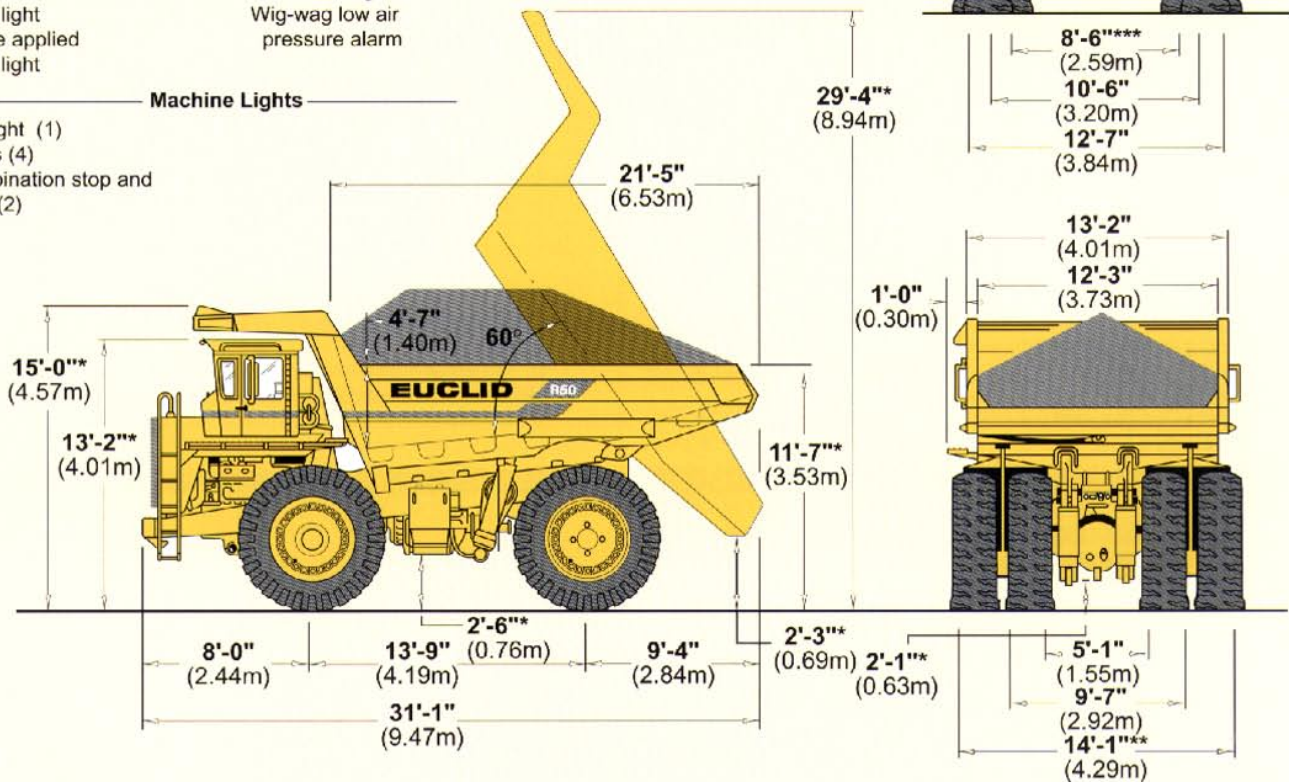
Acoustical lining	Operator seat belt
Ash tray	Rubber floor mat
Cab interior light	Safety glass
Cigar lighter	Sun visor
Heater and defroster	Tinted windshield
Integral ROPS/FOPS cab	Trainer seat and belt
Operator seat, mechanical	Windshield washers
	Windshield wipers

Gauges and Indicators

Air cleaner restriction indicator light	Rear brake malfunction light
Ammeter	Retarder high oil temperature indicator light
ATEC malfunction indicator light	Service air pressure gauge
Clutch pressure gauge	Speedometer
Converter lock-up indicator light	Steering filter restriction indicator light
Converter oil temp. gauge	Steer system malfunction indicator light
Coolant temperature gauge	Tachometer and hourmeter
Engine oil pressure gauge	Transmission malfunction indicator light
Gauge lights with rheostat	Transmission filter restriction indicator light
High beam indicator light	Wig-wag low air pressure alarm
Hydraulic filter restriction indicator light	
Park brake applied indicator light	

Machine Lights

Back-up light (1)
Headlights (4)
Dual combination stop and taillights (2)



OPTIONAL EQUIPMENT

Air conditioning	French certified air tanks
Air dryer	Fuel gauge
Air suspension seat	German market equipment list (TBG)
Alarm system, multi-function (low oil pressure, high coolant temperature, low coolant level, high conv. temperature)	Guard rails
Body liner (400 BHN) plates	Hoodsides (canvas)
Cab sound suppression	Hoodsides (metal)
Canopy spill guard extension	Hubodometer
Cold starting aid	Lube system, automatic
Cummins VTA28-C Engine	Lube system, centralized
Decals, French & German	Main battery switch
Differential, 3.15 ratio	Metric speedometer
Engine heater (oil & coolant)	Muffler
Extra reverse alarm	No spin differential
Fast fueling	Tires (size, type & rating)
	Tachograph, 24 hour recording
	Transmission guard
	Turn signals & hazard flashers
	Unit sound suppression

Standard and optional equipment may vary from country to country. Special options provided on request. Consult VME Market Support. Product improvement is a continuing VME project. Therefore, all specifications are subject to change without notice.

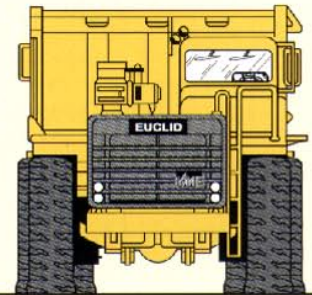
Note: Illustration may include optional equipment.

Note: Dimensions shown are for empty machine with 21.00-35 tires.

*With 24.00-35 tires add 3" (.08m)

**With 24.00-35 tires add 5" (0.13m)

***With 24.00-35 tires subtract 5" (0.13m)



8'-6"***

(2.59m)

10'-6"

(3.20m)

12'-7"

(3.84m)

13'-2"

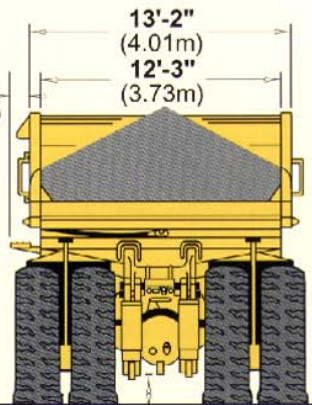
(4.01m)

12'-3"

(3.73m)

1'-0"

(0.30m)





SUSPENSION

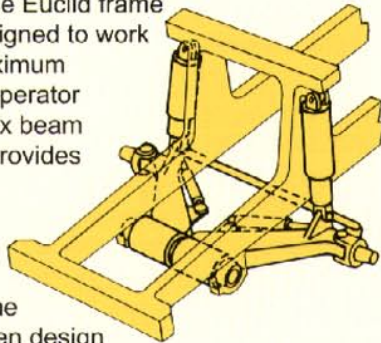
Front Suspension

Independent trailing arm for each front wheel. Neocon struts containing energy absorbing gas and compressible Neocon-x fluid mounted between trailing arm and frame.

Rear Suspension

"A" frame structure, integral with axle housing, links drive axle to frame at forward center point with pin and spherical bushing. Track rod provides rear link between frame and drive axle. Rear mounted Neocon struts suspend drive axle from frame. Neocon struts provide variable damping and rebound feature. The Euclid frame and suspension are designed to work in unison to provide maximum structural integrity and operator comfort. The tapered box beam frame rail construction provides superior resistance to bending and torsional loads while eliminating unnecessary weight.

VME achieves long frame fatigue life through proven design and manufacturing practices. Smooth frame transitions minimize stress concentrations and steel castings effectively distribute input loads. Frame life is further enhanced by utilizing fatigue resistant weld joints and locating welds in low stress areas. The unique trailing arm front suspension absorbs haul road input, minimizing suspension-induced frame twisting while providing independent tire action. Ride struts are mounted with spherical bushings, eliminating extreme sidewall forces by insuring a purely axial input to the ride strut. The wide track stance of the trailing arm design and long wheel base assure a more stable, comfortable ride. The suspension struts employ gas and Neocon-x fluid as the energy-absorbing media. This suspension continues to absorb energy when extreme dynamic loads are generated which significantly contributes to improved isolation of the operator and machine components.



BODY

Flat floor, sloped tailchute, continuously exhaust heated.

High tensile strength 190,000 psi (1310 N/mm²) alloy steel, 400 BHN used in thickness of:

	in	(mm)
Floor	5/8	(16)
Front	5/16	(8)
Sides	5/16	(8)
Canopy	3/16	(5)

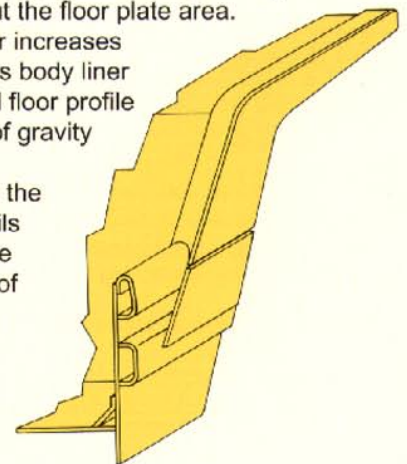
High yield strength 80,000 psi (551 N/mm²) alloy steel used for canopy side members, stiffeners: front, floor and side. Body is rubber cushioned on frame. The horizontal stiffener design of the Euclid body is specifically designed to minimize stress concentrations in any one area.

Horizontal side rails dissipate load shocks over the entire body length. The flat floor configuration enables the floors stiffeners to be uniformly spaced thus equalizing stress levels throughout the floor plate area.

In addition, the flat floor increases durability and augments body liner installation. The sloped floor profile provides a low center of gravity for maximum stability.

Body lifting cut-outs on the underside of the top rails are provided to facilitate installation or removal of the body. The cut-outs are standardized to industry hook sizes.

Additional features include a durable weld-on arm guard for operator safety and a weld-on exhaust collector box to eliminate a periodic service area.



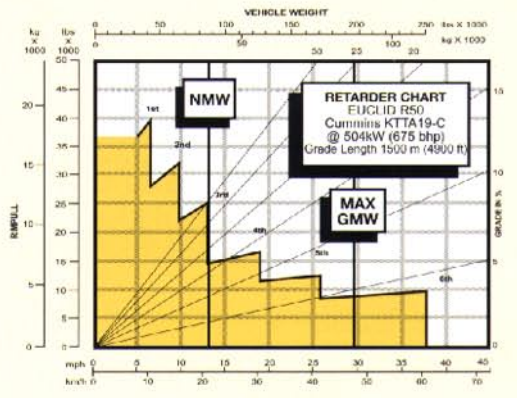
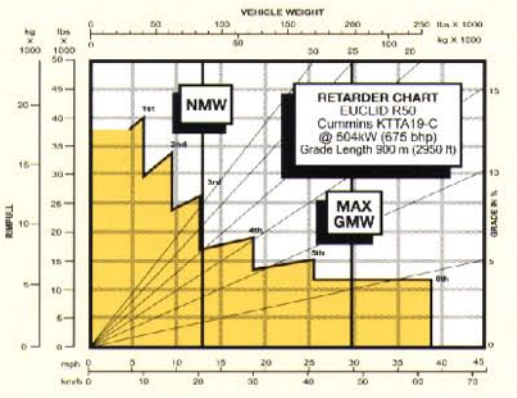
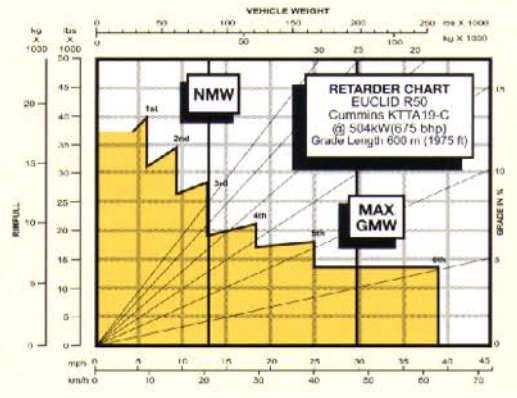
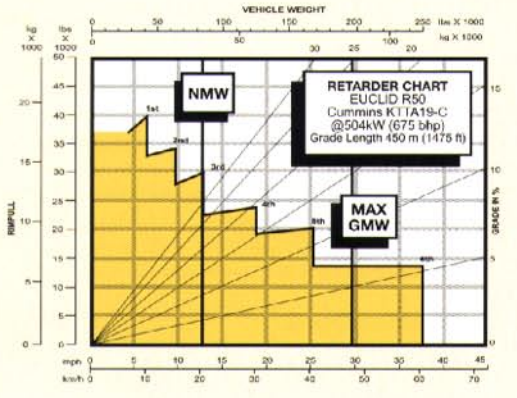
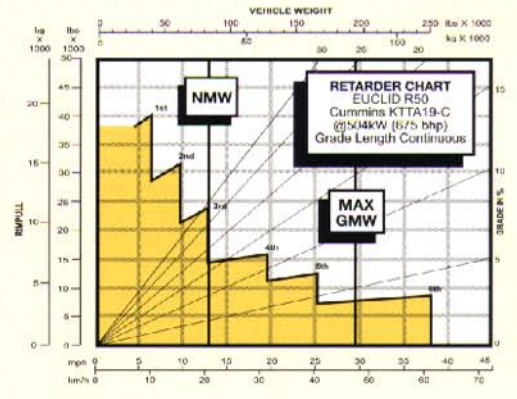
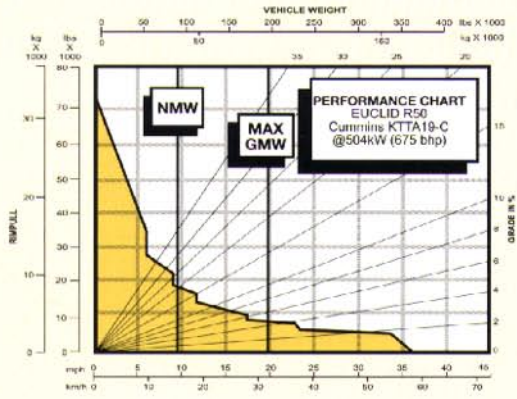
SERVICE CAPACITIES

	Gallons	(Litres)
Crankcase (incl. filters)		
Cummins KTTA19-C	16.0	(60.6)
Cummins VTA28-C	16.0	(60.6)
Transmission (incl. filters)	19.0	(71.9)
Cooling System		
Cummins KTTA19-C	36.0	(189.3)
Cummins VTA28-C	43.0	(162.8)
Fuel Tank	185.0	(700.2)
Hydraulic		
Hoist Tank	46.0	(174.1)
Steering Tank	26.0	(98.4)
Drive Axle	13.3	(50.3)



CAB ROPS/FOPS

VME designed 56" (142 cm) wide all steel cab, offset to the left and three point rubber mounted to isolate the operator from vibration. Safety glass throughout, tinted windshield with 5° slant. Fully insulated for noise and temperature control. Fresh air pressurized, filtered ventilation. Ladder and catwalk entry. The R50 is designed and originally manufactured to meet OSHA sound limitations at the operator's station with windows and vents closed under normal conditions. Featuring an integral ROPS (Rollover Protective Structure) manufactured by VME in accordance with SAE J1040 and ISO 3471, FOPS SAE J231, ISO 3449. Operator and trainer seat belt in accordance with SAE J386 and ISO 6683.



INSTRUCTIONS:

Diagonal lines represent total resistance (grade % plus rolling resistance %). Charts based on 0% rolling resistance, standard tires and gearing unless otherwise stated.

1. Find the total resistance on diagonal lines on right-hand border of performance or retarder chart.
2. Follow the diagonal line downward and intersect the NMW or GMW weight line.

3. From intersection, read horizontally right or left to intersect the performance or retarder curve.
4. Read down for machine speed.

Under our policy of continuous product improvement, we reserve the right to change specifications and design without prior notice. The illustrations do not necessarily show the standard version of the machine.

VME Industries North America

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