

RG12 Mk4

ARMoured MULTI-PURPOSE SECURITY VEHICLE



DENEL OMC

Denel OMC

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DENEL VEHICLE SYSTEMS



Though originally developed as an internal security and public order vehicle, the RG12 has proven just as effective in numerous other roles, e.g. command applications, cash-in-transit and bullion carriers, tactical rescue vehicles, paramilitary Armoured Personnel Carriers (APC), and surveillance. Over 700 vehicles are in service in various countries worldwide.

The vehicle offers a high degree of armoured protection, excellent on-and off-road mobility, versatility and outstanding in-service economy. The welded all-steel armoured hull is of a monocoque construction with all components welded or bolted to the hull.

The RG12 can be configured for a crew of up to 12 personnel.

The plug-type doors remain close to the hull during opening and closing, facilitating deployment from the vehicle in narrow or restricted areas. Armoured glass windows provide excellent visibility while providing the same ballistic protection as the hull structure. Metal mesh guards provide additional protection to ballistic glass surfaces, headlights, rotating/flashing beacons and other external equipment.

The RG12 Mk4 Features:

- Improved Auxiliary Power Unit provides additional power for improved air-conditioning and ancillary equipment
- Improved ergonomics
- Improved power-to-weight ratio
- Provision for Central Tyre Inflation Systems (CTIS) and Anti-Lock Braking System (ABS)
- The RG12 Mk4 is readily adaptable to carry the Mobile Adjustable Ramp System (MARS*) to enhance its capability as a tactical rescue vehicle.

*MARS, manufactured by Patriot 3 of the USA, facilitates entry into aircraft and buildings for anti-hijack and rescue missions.

Dimensions

Length	6,160 mm
Width (excluding rear view mirrors)	2,415 mm
Height	2,814 mm
Wheelbase	3,063 mm
Ground clearance	338 mm
Angle of approach (without scraper)	32°
Angle of departure	35°

Mass

Curb	*11,000 kg
Payload	*2,000 kg
Gross Vehicle Mass (GVM) *With 365/80 R20 Michelin Tyres	*13,000 kg

Seating

Qty	Driver + 11
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Performance

Maximum speed	> 100 km/h
Gradeability	50% low-range 25% high-range
Turning circle (kerb to kerb)	14 m

Electrical System

Voltage	24 v
Alternator	3 x 200 A

Protection Levels

Ballistic protection	Crew compartment and Roof @ 30° elevation 7.62 x 51 mm NATO Ball 5.56 x 45 mm NATO Ball
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Engine

Make	Mercedes-Benz
Model	6R106
Displacement	6,3 l
Maximum power	180 kW
Maximum torque	780 Nm

Transmission

Make	Allison 2,500 SP
Type	5-speed automatic

Transfer Case

Make	GHM RTC-25
Type	2-speed permanent 4-wheel drive with locking center differential

Axles

Make	AxleTech series 4,000
Type	Rigid with hub reduction

Steering System

Type	Hydraulically assisted re-circulating ball
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Suspension

Springs	Semi-elliptic leaf
Shock absorbers	Double-acting hydraulic

Brakes

Service brakes	Pneumatic front and back
Parking brakes	Pneumatic release spring applied on rear axle

Road Wheels and Tyres

Rim	11.0 x 20
Tyres	335/80 R20 Michelin XZL or 365/80 R20 Michelin XZL

RFI Optional

Options

- Powerful air-conditioner (up to 14.3 kW)
- 1 x spare wheel
- Front mounted, pneumatically-operated scraper
- P.A. system
- Roof-mounted area spotlight
- Roof-mounted blue rotating/flashing beacons
- Auto fire extinguisher system

Disclaimer

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RG21

MINE PROTECTED VEHICLE



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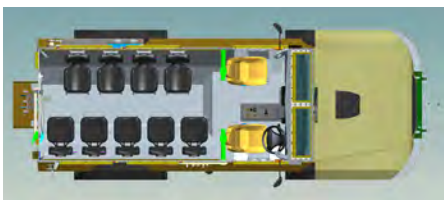


The RG21 combines the battle proven protection and quality of the RG series of armoured vehicles with the maturity and availability of commercially available host vehicle components such as driveline, running gear, dashboard and electronics.

The result is a highly protected vehicle at a very cost effective price, available as a left or right hand drive variant with modular interior and serviceable throughout service centres worldwide.

Key features:

- Proven quality and reliability with a wide range of options based on the large amount of commercially of the shelf (COTS) items used in all the automotive sub-systems.
- All aspects of the Value Chain are embedded in the system design which includes design for cost, manufacturability and supportability.
- Spacious driver and co-driver area with adjustable steering and excellent visibility,
- The vehicle can be easily re-configured for different missions due to the modular interior layout facilitated by the rail mounting system allowing repositioning of seats, radio racks, stretcher brackets and C4I equipment.
- A standard CANNBUS electrical system is fitted allowing easy to maintain diagnostics.
- Can be air transported in a C130 (with preparation).
- The roof interface can be configured for various weapon systems such as a manual turret, remote turret, smoke launchers, cupola or seated one man turret.



Dimensions

Length (with spare wheel)	6,490 mm
Width	2,454 mm
Roof height	2,930 mm
Ground clearance	450 mm
Angle of approach	36°
Angle of departure (step folded)	36°

Transportability

Air (with preparation)	C130 with turret
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Mass and payload

Tare (excluding options)	9,800 kg
Combat mass (all options)	13,800 kg
Total payload	5,200 kg
GVM (Host truck)	15,000 kg

Interior layout

APC	Up to 12 Seats
	Left or right hand drive
	APC, Command and Ambulance variants

Performance

Maximum speed	110 km/h
Gradeability	60%
Turning circle (kerb to kerb)	15 m

Crew Protection

Ballistic protection	7.62x51 mm NATO and 7.62x39 mm AK, 5.56x45mm SS109 Ball
Mine protection	21 kg TNT @ any wheel and 14 kg TNT under the hull without any hull rupture or fatal crew injuries

Engine

Make	Turbo, Intercooled 5.88L
Emmissions / Fuel	Euro 3 / Diesel, 115 l tank
Maximum power	176 kW; 240 hp; 2,700 rpm
Maximum torque	810 Nm @ 1,200-2,100 rpm

Transmission

Make and gears	ZF 6S800, 6 spd manual
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Steering System

Model	Adjustable steering wheel
Type	Power assisted, ball

Suspension

Type	Parabolic leaf spring
Shock absorbers	Dual/wheel (option)
Anti roll bars	Front and rear fitted standard

Axles

Type	Beam axle, hub reduction
Diff locks	Front and rear (option)

Wheels and Brakes

Wheels	395/85 R20, steel rims
Service Brake	Drum brakes (meet EEC)
ABS and EBL	Fitted, 2 circuits
Engine brake	Standard exhaust brake

Electrical System

Electrical Capacity	90 Amp, 24 Volt
Control system	Digital (CAN-based)

Vehicle Options

Air conditioner and demister - front
Air conditioner and extractor fan - rear
Interior seat storage
Rifle brackets
Radio rack and antennae mountings
Transmission PTO drive
Front mounted winch - 9000 kg
Rear Mounted Spare wheel and side winch
Run Flat Inserts (RFI)
Add-on armour and spall liner
Fording kit
Hot climate customization
PA System, search light and roof security lights
Blackout system, convoy, marker and IR Lights
Dual battery system
Rear view camera
Pintle mount weapon mount - 7.62 / 5.56 mm
Remote 7.62mm turret
One man manual turret
Smoke launchers
Emergency evacuation stretcher loading system
C130 air transportability preparation kit
External stowage bins

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RG31 Mk5 E

MINE PROTECTED ARMoured PERSONNEL CARRIER



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DENEL VEHICLE SYSTEMS



Photographer: MCC Michael D. Heckman



The RG31 Mk 5E APC is a 4x4 armoured vehicle with a maximum combat mass of 17 000 kg.

The all-steel welded armour monocoque hull protects the crew against small arms fire and anti-tank mine detonations. With permanent 4x4 drive and a two-speed (high and low) transfer gearbox the RG31 Mk 5E APC is easy to drive on road as well as off-road. It is fitted with a 5-speed automatic transmission.

Dimensions (RG31 Mk5 EHM)

Length	7,050 mm
Width	2,478 mm
Height (top of gun ring interface)	2,818 mm
Hump radius	4,324 mm
Wheelbase	3,805 mm
Ground clearance	
Center	340 mm
Axles	330 mm
Angle of approach	35°
Angle of departure	32°

Mass

Tare	14,610 kg
Payload	2,390 kg
Gross Vehicle Mass (GVM)	17,000 kg

Seating

Qty	Driver + 8
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Performance

Maximum speed (limited by tire rating)	100 km/h
Gradeability	60% low-range 25% high-range
Turning circle (kerb to kerb)	18 m

Electrical System

Voltage	24V DC
Alternator	570A or 450A with "high idle" capability

Protection Levels

- Ballistic protection as per customer requirement
- Mine and IED protection
- Highly effective wide spectrum protection
- Spall liner solution available

Engine

Make and model	Cummins QSB
Displacement	6,700 cm ³
Maximum power (DIN)	205 kW @ 2,500 rpm
Maximum torque (DIN)	990 Nm @ 1,600 rpm - 1,800 rpm

Transmission

Make	Allison 3000 SP
Type	5-speed automatic

Transfer Box

Make and model	AxleTech BT600R
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Steering System

Make	ZF
Type	Hydraulically assisted recirculation ball LH Drive, 2.5 turns lock to lock Power Cylinder fitted

Axles

Make and model	AxleTech International series 4000 (5G)
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Brakes

Parking brake	Pneumatic release spring applied on rear axle
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Road Wheels and Tyres

Tyres	Michelin 395/85-R20 XZL with RFI and CTIS
Rim type	10 x 20

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RG31 Mk5 EHM

MINE PROTECTED ARMoured PERSONNEL CARRIER



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RG31 MMP (Mobile Mortar Platform)



Photographer: MCC Michael D. Heckman



The RG31 Armoured Personnel Carrier (APC) is the most mature combat-proven mine protected vehicle available.

The RG31 is a 4x4 vehicle with a V-shaped hull that protects the crew against anti-tank mine detonations and Armour-Piercing (AP) rifle fire.

The RG31 is successfully deployed with peacekeeping and military forces in numerous theatres. The vehicle boasts excellent levels of protection against landmines and IEDs, making this a highly effective multi-role armoured vehicle.

The RG31 is available as an APC or Utility Vehicle. The latter can be utilised for cargo or the modular mounting of a variety of weapon systems, such as 81 mm mortar, 106 mm RCL and 20 mm cannon. All variants are also readily adaptable to a variety of other applications, including command and control, rapid intervention, urban or rural patrols and Explosive Ordinance Disposal (EOD).

The RG31 has a V-shaped, monocoque welded steel hull. Access is through a wide rear door, as well as side doors, while roof hatches ensure emergency access and egress.

The APC variant accommodates a driver and up to nine crew. The powerful 221 kW diesel engine, all wheel drive and effective suspension system allow for excellent on-and off-road mobility. The utilisation of commercial off-the-shelf components facilitates easy maintenance, repair and support.

Dimensions

Length (including jerry can)	7,000 mm
Width	2,500 mm
Height (top of gun ring interface)	2,800 mm
Hump radius	3,276 mm
Wheelbase	3,805 mm

Ground clearance	
Center	490 mm
Axles	460 mm

Angle of approach	36°
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Angle of departure	36°
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Mass

Tare (including level 3 ballistic protection)	16,000 kg
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Payload	2,600 kg
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Gross Vehicle Mass (GVM)	18,600 kg
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Seating

Qty	Driver + 7
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Performance

Maximum speed (limited by tire rating)	100 km/h
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Gradeability	60% low-range 25% high-range
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Turning circle (kerb to kerb)	16,2 m
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Electrical System

Voltage	24V DC
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Alternator	570A or 450A with "high idle" capability
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Protection Levels

- Ballistic protection as per customer requirement
- Mine and IED protection
- Highly effective wide spectrum protection
- Spall liner solution available
- RPG net solution available

Engine

Make and model	Cummins QSB
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Displacement	6,700 cm ³
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Maximum power (DIN)	221 kW @ 2,500 rpm
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Maximum torque (DIN)	1,100 Nm @ 1,600 rpm - 1,800 rpm
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Transmission

Make	Allison 3000 SP
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Type	6-speed automatic
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Transfer Box

Make and model	Denel (Gear Ratio) RGR 17T
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Type	2-speed, permanent 4-wheel drive
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Steering System

Make	ZF
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Type	Hydraulically assisted recirculation ball LH Drive, 2.5 turns lock to lock Power Cylinder fitted
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Axles

Make and model	AxleTech series 4500 ISAS Independent Suspension Pneumatic, dual circuit disc brakes with ABS
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Brakes

Parking brake	Pneumatic release spring applied on rear axle
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Road Wheels and Tyres

Tyres	Michelin 395/85-R20 XZL with RFLs and CTIS
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Rim type	10 x 20
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Other Variants

- RG31 Mk5 EM (Oshkosh TAK4)
- RG31 Mk5 E (Solid beam axle, 275hp)
- RG31 Mk6 MMP (Mobile Morter Platform)

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RG32M LTV

MINE PROTECTED LIGHT TACTICAL VEHICLE



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DENEL VEHICLE SYSTEMS



The RG32M LTV is an enhanced mine protected variant of the successful RG32M Patrol Vehicle, that provides even better crew safety and blast survivability.

The latest variant incorporates a V-shaped hull that protects the crew against Armour-Piercing (AP) rifle fire and Anti-Tank (AT) mine detonations.

The RG32M LTV has a Gross Vehicle Mass (GVM) of only 9.5 tons, classifying it as a light mine protected patrol vehicle that is highly mobile and agile.

The Light Tactical Vehicle (LTV) configuration offers more internal crew space than the conventional RG32M, due to its 200 mm wider hull and 50 mm increased headroom. Windows are externally mounted, providing improved side-blast protection, while also freeing up space inside the cabin. It also features a newly designed load bay, accommodating a variety of mission-specific equipment, and enhancing the vehicle's versatility.

With its high level of COTS (commercial-off-the-shelf) content, the RG32M LTV provides a cost effective through-life solution, with a minimal logistics footprint and the ability to be reconfigured with customer-required mission equipment.

Dimensions

Length (front of winch to rear of spare wheel)	6,000 mm
Width (across tyre outside)	2,235 mm
Height (to top of roof)	2,190 mm
Wheelbase	3,340 mm
Ground clearance (under diff)	430 mm
Angle of approach	42°
Angle of departure	30°

Mass

Gross Vehicle Mass (GVM)	9,500 kg
Tare	8,300 kg*

* Depending on options fitted

Seating

Qty	Driver, commander + 2*
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* Depending on options fitted

Performance

Maximum speed (road)	> 110 km/h
Gradeability	60% low-range
Turning circle (kerb to kerb)	17 m

Protection Levels

Ballistic protection	STANAG LEVEL 1 - Base vehicle 7.62x39mm API - with applique armour
Mine protection	6 kg TNT under any wheel or under the hull centreline

Engine

Make	Steyr M16SCI turbocharged intercooled
Maximum power (DIN)	200 kW @ 4,000 rpm
Maximum torque (DIN)	610 Nm @ 1,800 rpm

Transmission

Make	Allison S1000
Type	5-speed automatic

Transfer Case

Make	Atlas
Type	2-speed gear drive (shift on the fly)

Steering System

Type	Hydraulically assisted
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Axles

Front	Portal axle with selectable diff lock and CTIS-ready
Rear	Portal axle with selectable diff lock and CTIS-ready

Suspension

Springs	Coil springs, longitudinal arms and panhard rods
Shock absorbers	Double-acting hydraulic

Brakes

Service brake	Dual circuit hydraulic with 4-circuit ABS disc front and rear
Parking brake	Spring-applied, pneumatic-release, disc brake operated on rear axle input pinion

Road Wheels and Tyres (standard)

Rim type	11.0 x 20" split rim
Tyre size	335/80 R20

Options Available

- EMC approved electrical system
- Over pressure NBC system
- Climate control system for Middle-East
- Central tyre inflation system
- Different weapon systems
- C4i interfaces
- Cargo pod can be customised

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RG32M

MINE HARDENED ARMoured PATROL VEHICLE



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DENEL VEHICLE SYSTEMS



The versatile RG32M family of armoured utility vehicles is capable of fulfilling most roles that require a balance of protection and mobility.

The RG32M fulfils a wide spectrum of command, liaison and scouting roles. In a typical patrol mode, it can transport five crew members with their kit, combat stores and special-purpose equipment. A full armoured body variant, which seats up to seven crew, is also available. This includes additional rear protection extended over the rear axle.

Access and egress is through side doors and roof-mounted hatches. Armoured windows provide excellent visibility. High levels of tactical mobility are achieved through powerful 135 kW engine, 5-speed automatic transmission and portal axles. Two RG32Ms can be transported in a C-130 aircraft.

Crew and vehicle survivability is achieved through applied systems engineering techniques and by utilising unrivalled knowledge base gained from vehicle operations in Africa, Asia, Middle-East and Balkans, in addition to rigorous and systematic field-testing in South Africa, the UK, Sweden and the Middle-East.

Dimensions

Length (to rear of spare wheel)	5,330 mm
Width (across tyre outside)	2,175 mm
Height (to top of roof)	2,180 mm
Wheelbase	2,900 mm
Ground clearance (under diff)	430 mm
Angle of approach	53°
Angle of departure	33°

Mass

Gross Vehicle Mass (GVM)	9,500 kg
Tare	7,500 kg*
* Depending on options fitted	

Seating

Qty	Driver + 4 / *Driver + 4 + 2
* Depending on options fitted	

Performance

Maximum speed (road)	> 110 km/h
Gradeability	60% low-range
Turning circle (kerb to kerb)	17 m

Protection Levels

Ballistic protection	7.62 x 51 mm NATO ball 5.56 x 45 mm SS109 NATO ball 7.62 x 51 mm AP with appliqué armour
Mine protection	DM31 fragment mine

Engine

Make	Steyr M16TCA turbocharged intercooled
Maximum power (DIN)*	135 kW @ 3,800 rpm
Maximum torque (DIN)	406 Nm @ 1,800 rpm
* Different power settings available on request	

Transmission

Make	Allison S1000
Type	5-speed automatic

Transfer Case

Make	Atlas
Type	2-speed gear drive (shift on the fly)

Steering System

Type	Hydraulically assisted
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Axles

Front	Portal axle with selectable diff lock and CTIS-ready
Rear	Portal axle with selectable diff lock and CTIS-ready

Suspension

Springs	Coil springs, longitudinal arms and panhard rods
Shock absorbers	Double-acting hydraulic

Brakes

Service brake	Dual circuit hydraulic with 4-circuit ABS disc front and rear
Parking brake	Spring-applied, pneumatic-release, disc brake operated on rear axle input pinion

Road Wheels and Tyres (standard)

Rim type	11.0 x 20" split rim
Tyre size	335/80 R20

Options Available

- C41 Interfaces
- Central Tyre Inflation System

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RG41

WHEELED ARMoured COMBAT VEHICLE



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DENEL VEHICLE SYSTEMS



RG41 is a new generation combat vehicle, that meets demanding mobility, protection and firepower requirements, with the emphasis on combat power.

The RG41 has a high payload capacity, a class leading protection to weight ratio and a unique field-repairable hull.

RG41 is designed as an affordable and highly-mobile, wheeled combat vehicle, suitable for modern warfare.

Key features include:

- A modular, field-repairable mine protected design
- High mobility with good ride comfort
- Best value for money in comparison to existing similar products
- ITAR free design comprising mainly of COTS (commercial-off-the-shelf) components
- High payload capacity (10 tonnes)

High mobility is achieved through the inclusion of a specifically adapted hydro-pneumatic suspension.

Dimensions

Length	7,780 mm
Width (hull)	2,800 mm
Height (hull)	2,380 mm
Hump radius	900 mm
Wheelbase	1,693 mm (1st – 2nd axles) 2,257 mm (2nd – 3rd axles) 1,550 mm (3rd – 4th axles)
Ground clearance	440 mm
Angle of approach	64°
Angle of departure	54°

Mass

Curb	18,200 kg
Payload	9,800 kg
Gross Vehicle Mass (GVM)	28,000 kg

Seating

Qty	11 (1 x driver, 1 x vehicle commander, 1 x gunner, 1 x section commander and 7 x section crew)
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*For conventional turret layout

Safety belt	4 point harness
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Performance

Maximum speed	100 km/h
Gradeability	70%
Turning circle (kerb to kerb)	19 m

Electrical System

Voltage	24 v
Alternator	3 x 200 A

Protection Levels

Ballistic protection	STANAG 4569 Level 2 (Optional to Level 4/5)
Mine protection	STANAG 4569 Level 4A/3B (Optional to Level 4B)
IED protection	Protection level undisclosed

Engine

Make	Deutz
Model	2015TCD V6
Displacement	12 l
Maximum power (DIN)	390 kW @ 2,100 rpm
Maximum torque (DIN)	2,130 Nm @ 1,300 rpm

Transmission

Make	ZF5HP902
Type	5-speed with integral 2-speed drop-down

Transfer Box

Make	Denel (Gear Ratio)
Type	17,000 series

Steering System

Type	Twinsteer, power-assisted, fully-integral system
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Wheel Heads

Make	AxleTech
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Suspension

Type	Independent
Springs	Hydro-pneumatic strut
Shock absorbers	Hydraulic

Brakes With integral shock absorber

Main brake systems	Pneumatic disk brakes with ABS
Parking brake	Spring activated, air release disc brakes on all 4 rear wheels

Road Wheels and Tyres

Rim type	10.00R20 Aluminium
Tyres	16.00R20 Michelin XZL
RFI	Fitted (100 km range @ 50 km/h)

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iKlwa

MULTI-ROLE ARMoured VEHICLE



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DENEL VEHICLE SYSTEMS



The iKlwa* is a military fighting vehicle developed from the battle-proven Ratel Infantry Combat Vehicle.

This extremely cost-effective transformation, incorporates upgrades to existing elements combined with modern technology insertion. It is not merely a make-over but a major improvement on the Ratel, that increases the vehicle's capacity in almost every operational aspect. Additional, new design features make iKlwa the perfect support weapons and logistics platform.

For existing Ratel users, the iKlwa conversion offers a class-leading, modern fighting vehicle, without the costly need to change training packages doctrine or logistics.

The modular roof system, high internal volume and variable payload capacity makes it suitable for Armoured Personnel Carriers (APC), Infantry Fighting Vehicles (IFV) and gun platform roles. For large calibre artillery systems, a hydraulic outrigger system can be provided.

The distinctive Ratel nose with its near-upright driver's windscreen can be retained or replaced with a sloping section with a driver's hatch and episcopes.

* Named after the legendary short stabbing spear invented for his soldiers by Zulu King Shaka, the iKlwa incorporates the best battle-proven elements of the Ratel with state-of-the-art technology and design expertise to produce a unique wheeled defence and fighting vehicle for the 21st century.

Dimensions

Length (to rear of spare wheel)	7,100 mm
Width	2,520 mm
Height (to top of roof)	2,400 mm
Wheelbase	2,800/1,400 mm
Ground clearance (under transfer case)	455 mm
Angle of approach	42°
Angle of departure	48°
Hump radius 1-2 axle	1,655 mm

Mass

Gross Vehicle Mass (GVM)	23,500 kg
Tare	14,400 kg

Seating

Qty	*Driver + 15
*APC Variant	

Performance

Maximum speed (road)	> 110 km/h
Gradeability	60%
Turning circle (kerb to kerb)	13,5 m

Protection Levels

Ballistic protection	STANAG 4569A level 1 7.62 x 51 mm NATO ball 5.56 x 45 mm NATO ball @ 30 mm STANAG 4569A up to level 5 with appliqué armour
Mine protection	STANAG 4569B 2A STANAG 4569B 3A and 3B with additional packages

Engine

Make	Cummins ISL turbocharged intercooled
Maximum power (DIN)	336 kW @ 2,200 rpm
Maximum torque (DIN)	1,630 Nm @ 1,600 rpm

Transmission

Make	RENK HSV106
Type	6-speed automatic

Steering System

Type	Hydraulically assisted
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Axles

Front axle	MAN VA7/09 Beam axle with selectable diff lock
Rear axles	MAN H08 Beam axle with selectable diff lock

Suspension

Springs	Progressive rate coil springs, longitudinal arms and wishbones
Shock absorbers	Double-acting hydraulic

Brakes

Service brake	Dual circuit hydraulic/pneumatic
Parking brake	Spring-actuated on rear axles

Road Wheels and Tyres (standard)

Rim type	10.0 x 20" split rim
Tyre size	Michelin 16.00R20XZL or 14.00R20XZL

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