

HYZON HYMAX-450

Hydrogen powered 6x4 prime mover



Zero Emissions Zero Compromise



Powerful Performance

Highest power density fuel cell*



Quiet Operation

60% quieter than diesel equivalents



Quick Refuelling

Under 20 minutes



Long Range

650 km on hydrogen alone



High Payload

Ideal for heavy-duty vehicle application



Reduced Downtime

Less maintenance and servicing

*Independent tests show industry-leading power density



Key benefits of the Hyzon HyMax-450

- **Zero carbon emissions**
Fuel cells emit only water from the exhaust
- **Fleet transition with no compromise**
Superior gradeability with unparalleled torque and load carrying capabilities
- **Higher efficiency**
Regenerative braking for energy recovery
- **Reduced driver fatigue**
Significantly less vibration compared with diesel alternatives while driving and no vibration when the vehicle is stopped
- **Mature design**
Based on a fully developed, ADR compliant vehicle

HYZON HYMAX-450

Hydrogen powered 6x4 prime mover



The heavy duty tractor configuration is well suited to serve multiple industries including general and refrigerated logistics, agricultural and specialty gas operations.



Ex-works

Groningen, Netherlands

Hydrogen electric powertrain

Power electric motor	450 kW continuous
High voltage battery capacity	140 kWh
Fuel cell power	240 kW continuous
On board hydrogen mass	65 kg
Hydrogen working pressure	350 bar
Expected driving range	650 km

Chassis summary

Cab style	Right hand drive, cab over
Gross Combination Mass	Up to 70 tonnes
Driver seat	Air suspended
Co-driver seat	Basic
Cab open	Electric tilt
Chassis length	7,320 mm
Chassis width	2,460 mm
Chassis height	2,620 mm
Wheelbase	4,300 mm

Front overhang	1,370 mm
Rear overhang	1,650 mm
Front axle load	7,100 kg
Front suspension	Parabolic
Rear axle load	2 x 9,050 kg
Rear suspension	Air suspension
Adaptive cruise control	Forward Collision Warning, Advanced Emergency Braking System
Lane departure warning system	Included
Front tyres and wheels	295/80R22.5, Alcoa Dura-Bright alloy wheels
Rear tyres and wheels	11R22.5, Alcoa Dura-Bright alloy wheels

Service and maintenance

Hyzon utilises an existing Australia-wide customer service centre network to ensure vehicles can be maintained and serviced close to client operations. Customer service centres provide full product support, optimum coverage and serviceability.

Hyzon Motors reserves the right to modify the specifications or projections in this document at any time.

HYZON HYMAX-GSL

Hydrogen powered garbage truck
Side loader



Zero Emissions Zero Compromise



Powerful Performance

Highest power density fuel cell*



Quiet Operation

To avoid suburban curfews



Quick Refuelling

Around 10 minutes



Long Range

1500 bin lifts and 200 km



Advanced Visibility

High forward visibility and driver assistance



Reduced Downtime

Less maintenance and servicing

*Independent tests show industry-leading power density

Hyzon Motors partners with Superior Pak to develop hydrogen-powered garbage collection vehicles.

The partnership leverages Superior Pak's 25 years of experience designing and building mobile garbage collection and compaction equipment and Hyzon's leading fuel cell technology.

Hyzon's HyMax-GSL will be on Australian roads from 2022 with limited units available in this first release.

Key benefits of the Hyzon HyMax-GSL

- **Zero carbon emissions**
Emitting nothing but water from the exhaust
- **You won't get stuck on the landfill**
Capable of 1500 bin lifts and 200 km
- **Higher efficiency**
Regenerative braking for energy recovery
- **Lower driver fatigue**
Significantly less vibration compared with diesel alternatives while driving and no vibration when the vehicle is stopped
- **Reduced risk of repetitive injury**
Low cab driver entry
- **Reduced risk of pedestrian incidents**
High driver visibility



HYZON HYMAX-GSL

Hydrogen powered garbage truck Side loader



Ex-works

Melbourne, Victoria

Hydrogen electric powertrain

Capacity high voltage battery	140 kWh
Motor power	250 kW
Maximum speed	90 km/h
Fuel cell power	60 kW
Amount of hydrogen	20-25 kg
Maximum working pressure	350 bar
Total range vehicle	200 km (Including 1500 bin lifts)

The electric powertrain has been optimised for garbage collection operations, including long idle periods and short, intense periods of auxiliary hydraulic power. The chemical battery is designed to augment fuel cell power, absorb surplus power and power vehicle accessories when the vehicle is idle if required.

Chassis summary

Cab configuration	Dual control, cab over
Cab style	Low entry, low roof
Driver seat	Air suspended
Seating	Two driver + two passenger
Vehicle length	10,317 mm
Vehicle width	2,490 mm
Vehicle height	3,228 mm
Wheelbase	5,175 mm

Body summary

Body volume	24 m ³
Hopper volume	2.3 m ³ STD or 2.5 m ³ FOGO
Construction	Bis 90, 600 and Hardox 450 304 Stainless Steel FOGO
Compaction density	170 - 450 kg/m ³
Lifter type	Series 7000 Rapid Action
Lifter speed maximum	2.6 +/- .1 sec lift, <6 sec cycle
Reach	3,485 mm
Suit MGB types	80, 120, 140, 240 & 360 litre
Control system	SPK/Parker IQAN w/ TS Interface

The Raptor Side Loading body represents the very best in design and manufacturing for domestic garbage collection equipment, designed to maximise garbage collection productivity and ROI. The whisper quiet electric/hydraulic interface provides a high performance solution for companies wanting to reduce their carbon footprint and noise levels.

Service and maintenance

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RAPTOR SIDE LOADER COMPACTION UNIT

Detailed Specifications

Chassis / Body Layout: 24 m³ Pendulum Packer

Standard Configuration

7000 Series MGB Bin Lifter and Reach Arm with Spill Tray
Additional Bin Lifter Control (aka Remote Joystick) - Located beside kerb side drivers seat (near side)
Audible Reversing Alarm
Aluminum Guards with Mud Flaps
Broom and Shovel Rack
Ergonomic Operator Console (Adjustable) with Proportional Joystick for Bin Lifter control
Fire Extinguisher 6kg - ABE
High Tensile Hopper with Hardox 450 Wear Plate for maximum life
Hopper Access Ladder with Safety Lockout Switch
Hydraulic Hose Burst Protection Safety Valves
Hydraulic Oil Coolers
Hydraulic Tank Ball Valves
Hella LED Body Lights to ADR Requirements
Hella LED Front & Rear Warning Beacon - Rotating Pattern
LED Rear Warning Beacon
Hella LED Bin Pickup & Hopper Flood Light - 1200 Lumen Rating
Hella LED Reverse Flood Light - 1000 Lumen Rating (ADR Spec)
Oil Tank Temperature and Level Gauge
Operational Instruction & Induction Certificates (Level 1)
Operational Manual

Included extras to be supplied

Product	Description
Upgrades	
Alarm	Audible Reversing Alarm - 'White Sound' Smart Self Adjusting
Fire Extinguisher	9kg (replaces 6kg inclusion item)
Lights	Hella LED Rear High Mount Tail Lights (match STD light package)
Control System	MD4-10 Control System Upgrade - Large 10" Touch Screen operator interface & Premium CCTV monitor combination

Product	Description
Options	
Pressure Reducing Switch	For packer
Fire Extinguisher	2kg in-cab fire extinguisher
Lights	<ul style="list-style-type: none"> • Additional low rear tail light protection • Additional high rear tail light protection
Reverse Sensor System	RearSense 'Dual Zone' with in-cab display
Camera	<ul style="list-style-type: none"> • Premium 4 CCTV Colour Camera Kit w/ 7" TFT 'Quad View Split Screen' Monitor (Std) • Forward (in-cab) Camera (DVR feed only) Premium (Non IR Hi-Res Antiglare) • Premium in-cab Sentinel Camera 180° Internal View of Cabin • Premium Street Scape Camera - Hi-Resolution (used only with DVR) Available in Position 10 only • Premium 8 Channel DVR recorder (new 8201 model) (Incl's 1TB SSD, Incident Capture, GPS & G-Shock Sensor) • DVR Security Enclosure - Suit 4 & 8CH Premium DVR (provides security protection against plug & wire tampering)
Carrier	<ul style="list-style-type: none"> • MGB lid carrier • MGB wheel carrier
Rear Push Bar	Premium heavy duty (mandatory requirement for selected brands of chassis fitted with $\geq 33\text{m}^3$ bodies)
Toolbox	Large 600mm x 500mm x 400mm (pending available chassis space)
Water Tank & Hand Wash Facility	20 litre plastic
Weighing System	Split axle, truck weigh spring/air bag system - TW2A (suit 4x2 and 6x4)
Mud Guard	Suppressant bristles to all guards
Additional Rotating Beacon	Amber rotating beacon mounted above cab
Rear Tow Hitch	
LED Light Bar	P/N TDR 08120-Thunder 18 LED Fitted to front of vehicle to aid night driving
Control System Enhancement	Hydrogen Hybrid Body Integration Pack & Low Energy Control System