



#### POWER SUPPLY

48V, 470 Ah lead acid traction battery with 24 cells rated at 5 hour continuous rate of discharge, coupled with suitable 350A plug and receptacle. Battery performance conforms to IS:5154-1980. Larger batteries for longer operating cycles are available as an option. Battery discharge indicator with lift lock-out to safeguard the battery and critical electronic components is standard.

#### CHOICE OF DRIVE TECHNOLOGY

**DC SepEx drive:** 48V, strip wound, Separately Excited (SepEx) DC traction motor rated at 8.45 kW. DC traction motors have long been favourites on forklift trucks and even today the latest SepEx type of DC traction motors provide great value for money. The SepEx DC motor is the most contemporary in DC traction technology where the field motor coil and armature receive power independently. This greatly improves motor performance providing increased acceleration and top speeds while reducing brush wear.

**AC drive:** 48V AC traction motor rated at 8 kW. AC traction motors provide the benefits of extremely smooth control on truck travel, a high level of energy conservation and virtually maintenance free operation.

#### ADVANCED ELECTRONIC CONTROL

Programmable MOSFET controllers for DC and AC traction represent the new generation in drive control technology and are designed to provide smooth, efficient and cost effective speed control. Motor speed is controlled by varying the switching frequency of MOSFETs. The ability to switch 20,000 times per second gives MOSFETs their unique ability to provide infinitely variable speed control. The input is given by the throttle potentiometer on the accelerator pedal. Various safeties including armature current limit, potentiometer fault detection, thermal protection and low voltage protection are provided.

#### DRIVE UNIT AND DIFFERENTIAL

An integral assembly of drive motor, differential and full floating offset drive axle forms the drive train. This incorporates a 4.4:1 final reduction ratio through enclosed internal ring and pinion drive gears in the wheel hubs.

#### STEERING SYSTEM

Hydrostatic power steering actuated by the accelerator pedal meters and directs oil volume proportional to the amount of turn, to the appropriate side of the steering cylinder. The steering axle is centrally mounted on resilient silent block bushings. These along with spherical bushes in steering knuckle links provides articulation to the rugged steering axle. Articulation ensures positive wheel contact at all times, even on rough floors. External forces on the wheels do not produce a reaction at the steering hand wheel. The adjustable steering column option allows the steering column to be tilted to suit each driver's comfort.

#### HYDRAULIC SYSTEM

48V, strip wound, heavy duty compound DC motor with class "F" insulation rated at 6.7 kW coupled to a gear pump forms the heart of the hydraulic system. Suitable for heavy duty applications. Strip winding and commutator segments brazed for trouble-free and life-long operation.

The hydraulic pump with a positive suction head supplies pressurized oil to the main hydraulic valve which controls lifting and tilting functions besides attachments if any. An electric switch actuated by movement of the valve spools, starts the hydraulic pump which instantly supplies oil to the valve. Control levers with easy-to-understand

# GX 150 E

## 1.5 Tonne Electric Forklift Truck

Rated Capacity: **1500 kg at 500 mm Load Centre**

Godrej offers the most contemporary DC and AC traction technology. Both types of traction motors are managed by microprocessor based MOSFET programmable controllers with powerful benefits for best-in-class performance, reliability and value.

#### THIS PROVIDES:

- Smoother vehicle control
- Twin mode operation: 'Tortoise' for slower, careful maneuvering in constrained spaces and 'Hare' for high speed long distance travel
- Regenerative braking, which feeds braking energy back to the traction battery and also enhances the life of brake shoe liners
- Quick and easy trouble shooting with built-in diagnostics in the controller
- Programmable operating parameters to suit different operating requirements
- Reduced electrical maintenance due to fewer components and minimal hard wiring

#### OPTIONS AVAILABLE:

- Pneumatic tyres for rough flooring and driver comfort
- Faster lifting / lowering speeds of 0.2 m/s and 0.45 m/s respectively
- High Performance Pack for ultra-smooth control over lift, tilt, steering and attachment operations

symbols as per IS:7553-1975 are dashboard mounted within comfortable reach of the operator's right hand. A high capacity, full flow suction line filter located within the sump tank increases life of critical hydraulic parts.

**High Performance Pack:** Ideal for working in tight racking spaces or handling delicate goods. The hydraulic pump and motor are governed by an independent MOSFET programmable controller supplies pressurized oil to the lift / tilt cylinders as well as to the steering cylinder. The controller regulates motor rpm depending on the operations performed by the operator. Besides conserving battery energy, this system offers an ultra-smooth control of lift, tilt, attachment and steering operations.

#### FRAME

Precision aligned, monocoque construction with integral hydraulic tank. Driver's overhead guard, a safety feature on all Godrej Forklift Trucks is mounted on the frame. It protects the driver from overhead falling objects and conforms to IS:7621-1974.

#### CLEAR VIEW MAST

Greatly enhanced forward visibility of the Godrej Clear View Mast reduces strain on the operator and improves safety, productivity and speed of operation. Reinforced mast sections with heavy tie bars and canted roller design transfer the forces of load handling to the strongest point of the mast section. The design also resists deflection due to off-centre loading. Full floating lift cylinder and tilt cylinder mounts minimize side loading on cylinder rods and seals. Twin lift cylinders are fitted with a load lowering control valve, which regulates lowering speed in inverse proportion to the load on the forks. The carriage is built to Class 2 specification. Hook mounted forks are forged, heat treated and tested according to IS:6876-1972.

#### ELECTRICAL AND MECHANICAL BRAKING

Self adjusting expanding shoe type hydraulic brakes operate on drive axle pinion shafts where braking force is multiplied 4.4 times. Enclosing brakes within the drive axle housing protects them against contamination from dirt and dust. Hand operated parking brake.

One of the key benefits of Godrej Electric Forklifts is regenerative braking. Activated as soon as the accelerator pedal is released, the traction motor behaves like a generator and the forklift's kinetic energy, which would otherwise be wasted as heat in mechanical braking, is converted into useful electrical energy which is stored in the battery. This means the operator uses the mechanical braking system sparingly and prolongs the life of brake shoes and other brake parts, while the stored electrical energy prolongs the battery's operating time before re-charging.

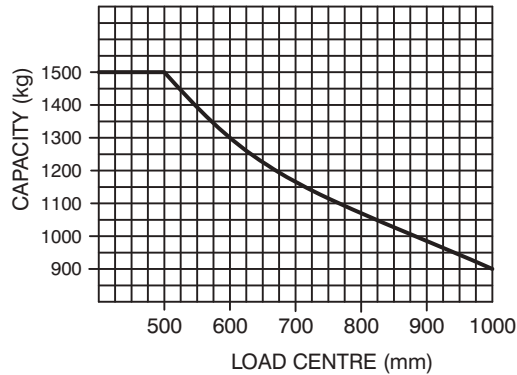
#### INSTRUMENTS

A combined gauge displaying the battery charge level and hour meter is mounted on the dashboard.

# GX 150 E

1500 kg at 500 mm L.C. Single Drive

CAPACITY CHART



## NOTE:

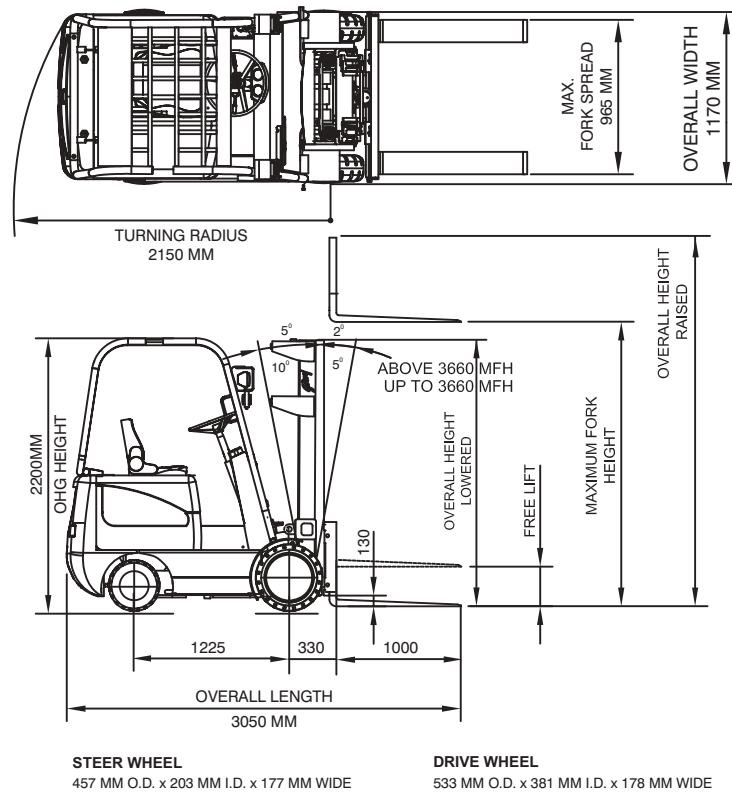
Capacities shown above are computed with mast in vertical position on level ground and load on forks.

	DC	AC
Travel speed Loaded (KPH)	10 km / Hr	10 km / Hr
Max. Gradeability (%)	15%	15%
Battery Capacity	470 Ah / 48V	470 Ah / 48V
Lifting Speed (loaded) (for 2 stage)	0.2 m/s	
Lowering Speed (loaded) (for 2 stage)	0.45 m/s	
Lifting Speed (loaded) (for 3 stage)	0.2 m/s	
Lowering Speed (loaded) (for 3 stage)	0.45 m/s	
Max. Draw Bar Pull (Kg)	1000 kg	
Service Weight	3600 kg approx.	
Colour	Godrej Traffic Yellow & Jet Black	

## OPTIONAL FITMENTS & ACCESSORIES:

- Head and Tail Lights
- Load Back Rest
- Battery Rollout Trolley
- Fork Extensions
- Side Shifter
- Fork Positioner
- Lateral Clamp
- Rotating Lateral Clamp
- Rotating Paper Roll Clamp

## GX SERIES ELECTRIC FORKLIFTS



MAST DIMENSION TABLE

Type of Mast	Max. Fork Height (mm)	Overall Ht. Lowered (mm)	Overall Ht. Raised* (mm)	Free Lift (mm)	Derated Capacity (kg)
2-Stage Clear View	3000	2300	3600	105	1500
	3300	2420	3900	105	1500
	3660	2630	4260	105	1500
	4600	3100	5200	105	1200
	5500	3550	6100	105	1050
2-Stage Clear View FFL	3000	2170	3600	1530	1500
	3660	2600	4260	1980	1500
3-Stage Clear View FFL	4500	2170	5100	1530	1200
	4800	2270	5400	1650	1150
	5500	2500	6100	1825	1050

FFL - Full Free Lift

\*Overall Height Raised With Load Back Rest = M.F.H. + 1200 mm

NOTE: All dimensions and specifications indicated above are subjected to a variation of  $\pm 15\%$ . Godrej products and specifications are subject to improvement or change without notice. Colours shown in the catalogues are indicative colours. Our Standard Colour is Traffic Yellow and Jet Black.

\*The images shown in the leaflet are representative. Actual equipment may differ in colour and optional accessories.



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