



## LI-ION vs **LEAD ACID**

Mitsubishi Forklift Trucks offers a wide selection of battery solutions and chargers.

Our experts can work with you to assess your applications and site to help you find the right technology for your business.

In the meantime, check out our quick battery guide.

#### **CONSIDERATIONS** WHEN CHOOSING A BATTERY:

#### Application/load (heavy or light duty)

- Truck type
- Shift lengths
- Battery exchange facilities
- Charging requirements
- **Facility limitations** (mains connectors, available space)
- Site layout e.g. frequent use of ramps

#### COMMON BATTERY TYPES

#### LI-ION



Li-ion is a relatively new battery technology that is commonly found in electronics and has recently become a viable tool

for electric forklifts.

In a Li-ion battery cell, electrolytes move between a positive electode and a negative electrode through a separator.

### **LEAD ACID**

Lead acid batteries include cells with an electrolyte mixture, water and sulfuric acid.

#### **DID YOU KNOW?**

A forklift is constantly extracting energy from a battery whether its accelerating, lifting or lowering so battery characteristics vary from that of an electric car.

#### **IMPORTANT FACTORS**

## **MAINTENANCE**

#### LI-ION

- Sealed
- Maintenance free no water filling required
- Performance data can be gathered from the Battery Management System

### **LEAD ACID**

**LEAD ACID** 

battery life

- Risk of gas/acid leak
- Requires maintenance and topping up with water
- Maintenance can be expensive
- Poor maintenance can lead to added repair costs

## LI-ION



#### Perfect for opportune charging on corree or lunch breaks

- May provide enough power for 2 or 3 shifts
- No harmful gasses so can be charged anywhere
- Full capacity of battery can be used
- No need for spare batteries Fast charging
- Handling requires Personal **Protection Equipment**

Requires careful monitoring

each time for optimum

of capacity and full charging

- Requires a designated,
  - ventilated area Charging areas take up
  - valuable space on site Large and heavy to move
- Requires frequent battery changes





Li-ion

high frequent operations and industries Lead acid = good for single shift operations, in typically smaller

= good for multi-shift operations, in typically larger

and low frequent companies

# **BATTERY**

## LIFECYCLE

## LI-ION **5000**

capacity cycles



## **LEAD ACID** 1500

charging cycles (300 per year for 5 years)



LI-ION

X

X

CONS

Higher initial cost

Requires parking

Larger AC draw,

from power

network

#### **PROS** Opportune charging

**AT A GLANCE** 

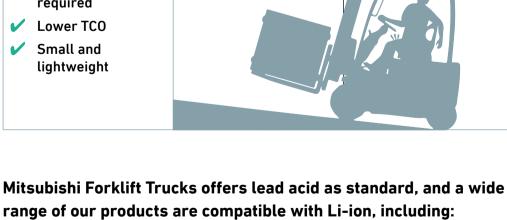
- Greater efficiency ✓ Longer life span
- ✓ Superior runtime Greater capacity
- Less downtime
- Reduce spares required
- Lower TCO Small and

lightweight

- area and charging points
- **Economically** priced

**PROS** 

- Simple technology Durable in light applications



#### CONS Shorter life cycles

**LEAD ACID** 

- Slow recharge High maintenance X
- Dangerous to
- Often requires spare batteries

handle



EDÍA AXÍA SENSÍA Counterbalance trucks **Stackers** Reach trucks









**RB Series** Reach trucks











TALK TO YOUR DISTRIBUTOR TO FIND OUT WHICH **BATTERY IS RIGHT FOR YOUR APPLICATION.**