

## **Very Narrow Aisle Forklift**

Used Very Narrow Aisle Forklift Mesa - Getting items from one warehouse location to another and to and from the loading docks is the focus of warehousing. Focus is often on space saving tools and the layout of the building. Extremely narrow aisles offer more storage space since there is less space needed for aisle access. These warehouse configurations are often referred to as warehouse optimization. Warehouse Optimization There are several significant benefits of implementing very narrow aisle warehouse optimization. Because very narrow forklift trucks were developed to take up less space in maneuvering, it is now possible to decrease warehouse aisle width to less than half the width required by standard forklifts. Certain models of very narrow aisle forklifts can increase the square foot storage capabilities by delivering greater stacking heights. This means that costs are decreased because less warehouse space is necessary for the same amount of stock than if a standard aisle configuration were used. Square footage is costly in urban areas and any way to reduce warehousing costs can save a company money. Adding a very narrow aisle width system can increase storage up to eighty percent when planned properly. In addition, a very narrow aisle layout allows for more rack faces as well as better access to products. Since greater quantities of products are situated in a more accessible area, there is less travel time needed for gathering and storing items. Warehouse layouts usually utilize a narrow aisle or very narrow aisle plan. Narrow aisles are measured as those that use fewer than eleven feet of aisle width. Very narrow aisles usually use an aisle width of approximately 6.5 feet across. Both of these aisle widths provide significantly increased storage opportunities. Standard forklifts can have issues with turning in these aisle widths. To meet these challenges, several different types of very narrow forklifts have been specially developed for various types of tasks to allow easier maneuvering in narrow aisle widths. When selecting a forklift for a job application, it is essential to know the aisle dimensions. It is important to have the correct aisle dimensions before forklift shopping to avoid securing a machine that won't fit its' intended location. Taking note of any utilities, columns or posts is necessary before choosing a particular narrow aisle forklift design to maximize warehouse optimization and safety.

**Very Narrow Aisle Forklift Trucks** Very narrow aisle forklift trucks are almost always powered electrically, usually by rechargeable battery. Very narrow aisle forklift trucks are popular as stand-up riders to help increase operator comfort and productivity. There are different very narrow aisle forklift designs such as order pickers, reach trucks, wing-mast or turret and end-control riders. **Reach Forklift Trucks** Developed as a kind of rider stacker forklift, the reach forklift trucks can be configured for narrow aisle locations. It got its name by its function of reaching its forks forward to get to a load. There are two types of reach trucks: the moving mast and the moving carriage. The moving carriage works by raising and lowering the carriage and the driver. The moving mast works by raising and lowering the forks along the mast, while the operator stays at ground level. Of the two kinds of reach trucks, the moving mast reach truck is the safer of the two varieties. These machines rely on a kind of jointed framework known as a pantograph system that enables the operator to place a load or reach the load without moving the machine. **Order Pickers** Order pickers have been created to pick items from difficult, high racking systems. These machines are used for picking up lighter stock that can be moved by hand. They lift the operator up to reach the goods by identifying and choosing certain items to create an order. **End-Control Riders** End-control riders are used to pick loads located at floor level and transport the load horizontally, rather than lift or lower loads from various heights. **Turret or Swing-Mast Forklift** Turret or swing-mast very narrow aisle forklift have a pivoting articulating swivel mast. Pallets can be set on either the right or left side of the forklift due to the machine's ability to use its' swinging mast. **Guided Very Narrow Aisle Trucks** Very narrow aisle forklift trucks can be guided by rail or wire down the aisles. Because the forklift is guided, thereby reducing the possibility of the forklift bumping racks while moving down the aisle, the aisles can be extremely narrow. For rail-guided systems, a series of rails are installed into the floor, on both sides of the aisle, and run along the floor for the length of

the aisle, curving around the end of the aisle. The forklift is fitted with special wheel guides that slide into the rails, preventing the forklift from moving outside the rail guards. Wire-guidance forklift systems install wires on the floor instead of rails and the wires run down the middle of the aisle. The wire-guides function similarly to the rail systems except the forklift has a wire-guide system to prevent the machine from traveling where it is not supposed to.

**Work Site Considerations** Certain essential considerations need to be dealt with before using a narrow aisle configuration. The floor and the rack construction needs to be evaluated to avoid any issues since the very narrow aisle units have extremely high racking systems. There are four areas which must be meticulously prepared before setting up a racking system and must be continuously monitored and maintained throughout the operation of the warehousing system:

1. The floor must be level;
2. Cracks must be repaired;
3. Load capacity of floor must be appropriate; and
4. The racks must be plumb.

**Level Floor** Because of the height of the racking systems, any slight slope of the floor is likely to negatively affect the plumbness of the racks, especially over time when loads are continuously placed and removed on the racks. A level floor is vital for the safety and integrity of the operator, employees, stock and the warehouse.

**Crack Repair** Cracks in the floor ideally should be fixed once they are noticed to ensure everyone's safety. The level of the floor can become unstable with cracks when they are only 3/8 inches wide. They will need to be filled properly with material as hard as the rest of the floor.

**Floor Load Capacity** The floor needs to meet specific minimum requirements prior to a narrow aisle configuration. At a minimum, the floor should consist of 3,000 psi concrete as well as contain evenly distributed rebar approximately 3 to 4 inches below the surface. Depending on the configuration and load requirements, extra reinforcements may be necessary.

**Plumb Racks** Of great importance is the proper installation of the racking system. There is a major chance of rack failure if improper installation occurs. Every rack needs to be plumb to ensure a safe system and work environment. Rack shims are recommended to make sure the racks are plumb within one inch at the thirty-foot rack height. Dangerous racking failure can occur if the above steps are not taken. Employees can become hurt or killed in the event that racking failure occurs. Goods can be damaged along with forklifts and other equipment. Because of these reasons, these measures are the most important part of implementing a narrow aisle configuration for warehousing optimization.