

## Very Narrow Aisle Forklift

Used Very Narrow Aisle Forklift Lancaster - Warehousing solutions often focus on layout and space saving solutions in order to cut down on costly square footage and decrease travel time required to transport goods throughout the warehouse and loading dock areas. Narrow aisles need specific solutions to allow goods to be accessed and stored properly. More space can be given to storage as less space is needed for accessing the aisle. Warehouse optimization consists of warehouse configurations. Warehouse Optimization There are several significant benefits of implementing very narrow aisle warehouse optimization. Since very narrow forklift trucks have been designed to take up significantly less space, warehouse aisle widths can be reduced to half the width needed by traditional 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. In most urban areas where square footage is very costly, this is a huge benefit to warehouse operations. Warehouse storage can be increased up to eighty percent with careful planning when a narrow aisle width configuration is utilized. 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. Less than eleven feet of aisle width is needed by narrow aisles. Very narrow aisles usually use an aisle width of approximately 6.5 feet across. Both of these aisle widths provide significantly increased storage opportunities. However, they also create challenges when turning within the aisles using forklifts for stocking and order picking. 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. Having the right aisle dimensions will save money and time instead of purchasing the wrong forklift that won't be able to conquer the applications. It is essential to take any columns, posts or utilities into account before deciding a type of narrow aisle forklift design as these can block access.

**Very Narrow Aisle Forklift Trucks** As these units are mostly powered by electricity, rechargeable batteries are popular for very narrow aisle forklifts. Very narrow aisle forklift trucks are popular as stand-up riders to help increase operator comfort and productivity. The most commonly used types of very narrow aisle forklift trucks are: 1. Reach trucks 2. Order pickers; 3. End-control riders; and 4. Turret or swing-mast.

**Reach Forklift Trucks** Reach trucks were designed as a version of the rider stacker forklift but specially modified for use in narrow aisles. This machine earned its name by its ability to reach its forks to secure a load. The two kinds of reach trucks the moving carriage and the moving mast. The moving carriage works by raising and lowering the carriage, along with the operator. While the operator stays at ground level, the moving mast is responsible for raising and lowering the forks. The moving reach truck is typically considered the safest out of the two kinds of reach trucks. Reach trucks use a pantograph system, a type of jointed framework, which allows the operator to reach for or place a load without the need to move the forklift itself.

**Order Pickers** Order pickers have been designed and developed specifically for use in picking orders from high, typically hard-to-reach racks. 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 machines that pick loads up at floor level and move the items horizontally as opposed to lowering or lifting over numerous heights.

**Turret or Swing-Mast Forklift** Turret or swing-mast very narrow aisle forklift have a pivoting articulating swivel mast. The mast swivels to enable pallets to be positioned on the right or left side of the forklift.

**Guided Very Narrow Aisle Trucks** Many very narrow aisle forklift trucks are able to be guided down aisles by wire or rail. Since the forklift truck is guided, the chance of colliding with racks while

traversing down the aisles is very low. Rail-guided applications use special rails set into the floor on either side of the aisle, running the length of the location and curving around the edge. Specific wheel guides are on the forklift. These slide into the rails to stop the forklift from moving out of the rail guards. Running down the center of the aisle, wire-guidance forklifts rely on floor wires instead of rails. 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** There are a few critical considerations when implementing a very narrow aisle configuration. The narrow aisle units feature tall racking systems. The floor construction and the racks need to be carefully taken into account for everyone's safety. There are four main locations that need to be ideally prepared before any racking system can be installed. These areas need to be monitored continuously including fixing cracks in the floor, ensuring the racks are straight, a level floor and an appropriate load capacity of the floor.

**Level Floor** Due to the racking system height, any minor floor slope can greatly impact how plumb the racks are, particularly over time if loads are placed and removed repeatedly on the racks. The height of the racking system means that any minute floor slope can have a negative impact on how straight the racks are, especially over time when loads are continually removed and placed on the racks. Without a level floor foundation, the rack stability could be compromised.

**Crack Repair** When cracks in the floor are spotted, they should be assessed and, when necessary, repaired immediately. Cracks may affect the floor's level and, when they are approximately 3/8 inches wide, will need to be properly filled with a material at least as hard as the surrounding floor.

**Floor Load Capacity** Minimum flooring requirements must be met before considering a narrow aisle installation. The floor should have three thousand psi concrete minimum and contain evenly distributed rebar at three to four inches under 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. If installed improperly, there is a great chance of rack failure. 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. Racking failure can kill or injure employees, damage equipment and result in horrible damage. Due to these potential problems, the most significant part of creating a narrow aisle configuration for warehousing optimization is the initial measurements.