

## **Very Narrow Aisle Forklift**

Used Very Narrow Aisle Forklift Stockton - 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 Several benefits can be enjoyed for adding very narrow aisle warehouse optimization such as more storage space for the facility. 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. Numerous narrow aisle forklifts deliver better stacking heights to increase the storage capacity on a square foot basis. 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. Most urban locations have expensive square footage; therefore, reducing costs is a benefit to warehouses and their business. When planned carefully and properly, it is possible to increase warehouse storage area by up to 80 percent by implementing a very narrow aisle width configuration. This warehouse design creates more rack faces and increased product access. 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 usually those that use less than 11 feet of aisle width. Very narrow aisles usually use an aisle width of approximately 6.5 feet across. Either of these widths drastically increases storage potential. 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. It is important to have the correct aisle dimensions before forklift shopping to avoid securing a machine that won't fit its' intended location. 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** Very narrow aisle forklift trucks are almost always powered electrically, usually by rechargeable battery. These very narrow aisle trucks are more commonly available as stand-up riders, which helps increase productivity and operator comfort. 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. This machine earned its name by its ability to reach its forks to secure a load. There are two types of reach trucks: the moving mast and the moving carriage. The moving carriage functions by lowering and raising the carriage and the operator. 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. 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 created to pick items from difficult, high racking systems. They are used for smaller picking items that can be lifted and moved by hand. These order pickers work by lifting the operator up to the level of goods in order to identify and pick the specific item or items necessary to fill 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** The turret or swing mast very narrow aisle forklifts have a swivel mast that pivots and articulates. The mast swivels allowing pallets to be placed on either the left or right 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. Thanks to the guide rails, the possibility of crashing into racks is greatly reduced. 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. 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** Certain essential considerations need to be dealt with before using a 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 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** Due to the racking system height, any minor floor slope can gravely 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. A level floor is vital for the safety and integrity of the operator, employees, stock and the warehouse.

**Crack Repair** When there are floor cracks found, they need to be assessed and immediately fixed for safety concerns. Safety can become compromised when flooring cracks become 3/8 inches wide. They require proper filling with a substance that is as hard as the floor.

**Floor Load Capacity** The floor should meet certain minimum requirements before considering 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** The racking system is essential to the whole process and needs to be installed properly. Rack failure can happen if they are improperly installed. One of the most important details to ensure proper installation, is that all racks are plumb. Rack shims are recommended to make sure the racks are plumb within one inch at the thirty-foot rack height. Racking failure can happen if the aforementioned measures are not taken or implemented correctly. Such failure is likely to result in costly damage to goods, the warehouse facility, forklifts and, worst of all, employees could be significantly injured or even killed. These measurements are vital to the success of installing a safe and productive narrow aisle configuration.