

PROSTAK MRO MANAGEMENT SYSTEMS





GO FROM THIS  TO THIS 



WITH A PROSTAK MRO MANAGEMENT SYSTEM

PROSTAK MRO MANAGEMENT SYSTEMS ARE SIMPLY THE BETTER SOLUTION

IMMEDIATE ACCESSIBILITY TO ASSETS AND INVENTORY

Stacker Cranes are integrated into the racking system. They are always there, ready to work improving employee productivity by eliminating wait times for fork lift availability.

GREATER EQUIPMENT RELIABILITY

2000 hour scheduled maintenance compared with 500 hours or less for most lift trucks. Extended maintenance schedules equal reduced labor or maintenance costs.

EFFECTIVE USE OF VALUABLE FLOOR SPACE

Narrow aisles use less cubic floor space than conventional racking and fork lifts. Taking full advantage of the unused height in your facility means more assets or inventory items in less space. Reclaiming up to 50% or more of your floor space and re-allocating it for high value production.

ASSET AND INVENTORY PROTECTION

Storing and managing materials in an organized manner means less damage to valuable items from excessive handling and less likelihood of lost items.

MAXIMUM CAPACITY LOAD HANDLING AT ANY HEIGHT

Stacker cranes lift full rated capacity at floor level and at the maximum lift height, compared with narrow aisle or very narrow aisle lifts which often have reduced lift capacity at their maximum lift height. This feature allows you to utilize your system to its greatest storage potential and reduces reliance on employees to calculate what loads can go where.

ADJUSTABLE AND REMOVABLE STEEL PALLETS

Specifically with the PROSTAK system you have durable steel pallets which can be adjusted 'on-the-go' every 4 inches increasing storage density. This flexible solution removes wasted space from the racking system which means more material in less space. The steel pallets eliminate the need for wooden pallets which is better for our environment reducing your carbon footprint. You benefit additionally with a cleaner work area and cost savings by eliminating the purchase of replacement wooden pallets.

REDUCED LABOR COSTS

Stacker crane systems require no batteries and no fuel. No lost time changing over batteries or replacing propane tanks or managing the hazards associated with them.

REDUCED ENERGY COSTS

Electric stacker cranes cost less than propane or electric trucks. Reduced energy costs mean reduced operating costs and a "greener" approach to handling your assets and inventory.

IMPROVED EMPLOYEE PRODUCTIVITY

With the stacker crane always available and ready to work, and with your assets and inventory organized, employees can often store or retrieve items in 2 minutes or less. This leads to less time wasted "hunting" for items and more time productively working.

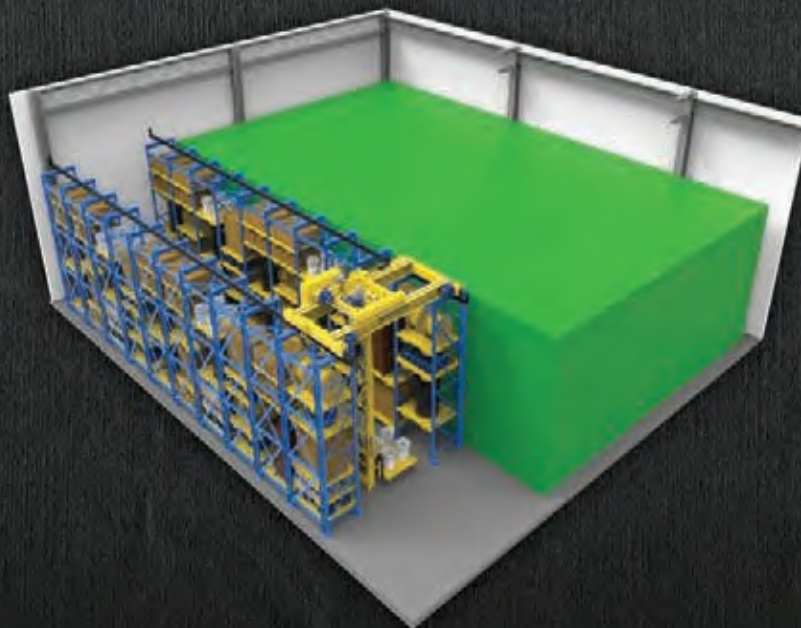
PROSTAK MRO MANAGEMENT SYSTEM ADVANTAGES



TYPICAL MRO STORAGE AREA

Wasted Space, Low Pallet Density, Large Footprint

- Saving space by matching asset size to appropriately sized pallets
- A dedicated lifting device helps to minimize forklift dependence
- Substantially reduced aisle widths compared to conventional forklift turning radius
- Instant adjustability allows greater pallet density and a reduced storage footprint



PERSPECTIVE OF PROSTAK MANAGEMENT SYSTEM

Saved Space, Increased Pallet Density, Shrink Total Footprint

ROI OF PROSTAK MANAGEMENT SYSTEMS VS PALLET RACK FIXED BEAM STORAGE SYSTEMS

As the need for increased production, improved productivity and the elimination of waste in your operation grows, so does the need for more production or storage space. When choosing to purchase a PROSTAK Management System it is important to look at not only the initial upfront purchase price but also the long term operating costs of ownership. Let's take a look at the benefits of purchasing a PROSTAK Management System versus a Pallet Rack Fixed Beam Storage System for managing MRO materials.

- **System Cost Difference:** The initial cost difference to purchase a PROSTAK Management System VS a Pallet Rack Fixed Beam Storage System.

- (PROSTAK System) \$156,058 - (Rack & Forklift) \$67,324 = **\$88,734**

YOUR RETURN ON INVESTMENT:

- **Pallet Density Gain:** Instant adjustability and multiple pallet sizes can provide a savings of 457 sq. ft. of increased storage density to footprint savings.
 - (fix beam footprint) 569 sq. ft. - (PROSTAK footprint) 112 sq. ft. = 457 sq. ft.
 - 457 sq. ft. x \$125 dollar value per sq. ft. (Estimate new construction cost) = **\$57,125**
- **Aisle Savings:** No need for the wider aisles to accommodate the larger turning radius of a conventional forklift.
 - 7'-10" (Gain per aisle) x the length of each aisle x number of aisles
 - 7'-10" x 47'-4" (average) = 371 sq. ft. x 2 = 742 sq. ft. x \$125 = **\$92,750**
- **Forklift Savings:** Dedicated lifting device provides forklift savings.
 - Estimated annual savings of 1 forklift (usage, fuel, maintenance and repairs) = ... **\$18,500**
- **Accident Avoidance:** Your PROSTAK Management System will save many miles of conventional forklift traffic reducing employee fatigue, elevating the safety profile while increasing accident avoidance. The National Safety Council estimates an average back injury costs \$100,000.
 - Elimination of just one accident can save substantial personnel injury costs potential asset damage and lost productivity.
 - Estimated low end value of avoiding just one accident annually = **\$50,000**
- **Operational Gains:** For all the reasons previously stated; space saving, increased pallet density, more efficient operation, safety, less forklift travel and dependency, operational efficiency and labor utilization will only increase.
 - Estimated annual operational gains = **\$50,000**

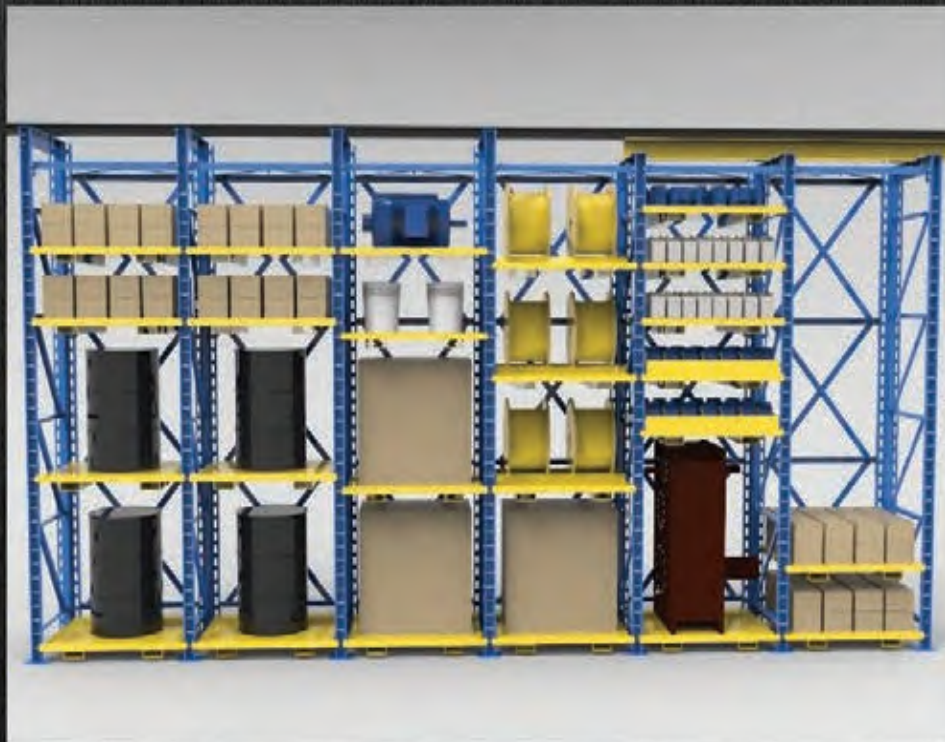
PRELIMINARY ESTIMATE OF MONETIZED PROSTAK MANAGEMENT SYSTEM VS LEGACY FIXED BEAM RACK;
ESTIMATED SAVINGS OF = **\$264,375**
SYSTEM COST DIFFERENCE (PROSTAK System - Pallet Rack System) = **\$88,734**
ROI (Return on Investment in Months) ($\$88,734 \div \$264,375$) x 12 = **4.03 Months**

PROSTAK MANAGEMENT SYSTEM DENSITY COMPARISON



TYPICAL FIXED BEAM PALLET RACK SYSTEM

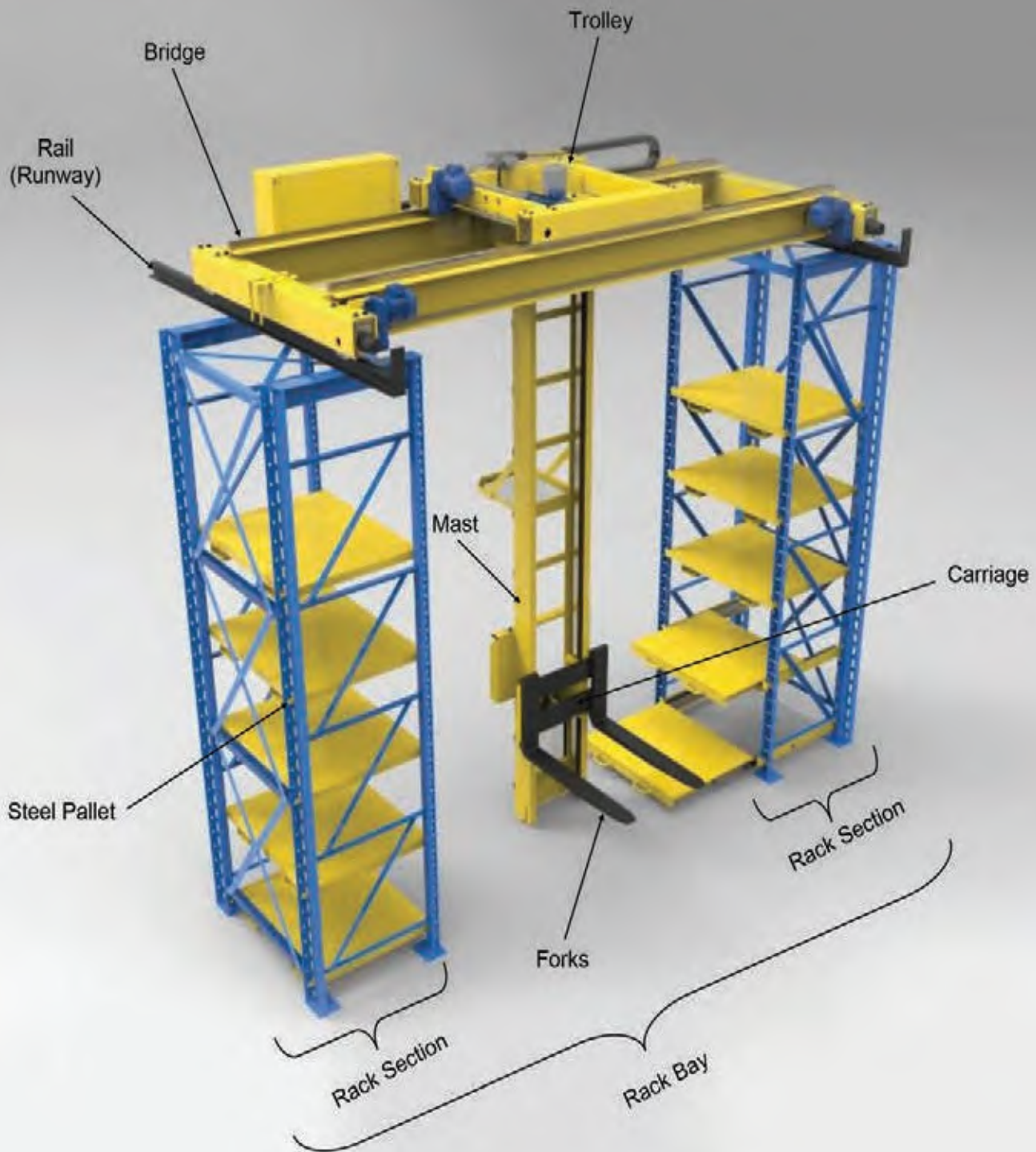
- Wooden pallets are susceptible to damage due to the weight of some items
- Rack beams are set to a specified height and are not easily adjusted
- Fewer items can be placed on wooden pallets due to weight limitations causing less dense storage
- More air space is wasted so fewer pallets can be stored vertically thus increasing the length of the system



INNOVATIVE PROSTAK ADJUSTABLE STEEL PALLET RACK SYSTEM

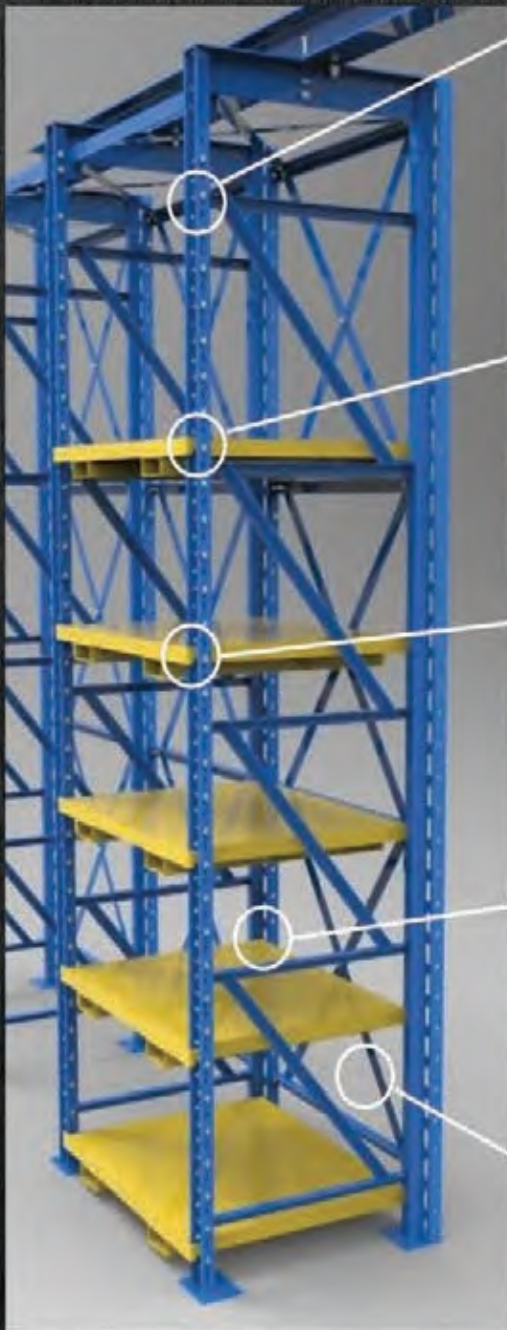
- Steel pallets resist damage due to the weight of the items
- Steel pallets are instantly adjustable vertically every 4"
- More items can be stored on pallets creating a more dense storage system
- Less air space is wasted allowing more pallets to be stored vertically thus reducing the length of the system

PROSTAK MRO MANAGEMENT SYSTEM REFERENCE SHEET



PROSTAK MRO MANAGEMENT RACK & PALLET FEATURES

The PROSTAK MRO Management System was designed with the operators safety and product protection in mind. The features listed below are why the PROSTAK MRO Management System should be your number one choice.



SMOOTH FRONT UPRIGHTS:

The front uprights are designed to prevent personnel injuries. By designing the front uprights with a rolled smooth front face, and using 1/2" high strength support pins, we have eliminated accidental gouging injuries, that are commonly caused by the saw-tooth front upright designs. Damage to the support pins is minimized since nothing protrudes from the face of the upright.



HIGH STRENGTH FRONT SUPPORT PINS:

The PROSTAK Adjustable Steel Pallet Rack uses 1/2" high strength galvanized support pins in the front uprights. These support pins are spaced on 4" centers and continue to the top of the rack upright. If a support pin were to be damaged the pin could easily be replaced essentially repairing the upright to its full adjustability.



POSITIVE LOCKING PALLET TABS:

Each pallet is designed with front and rear support tabs. The rear support tabs help to guide the pallets into place. While the front support tabs positively lock the pallet into place. This positive locking action allows for a safe and secure pallet.



REAR UPRIGHT PALLET GUIDES:

The unique design of the rear column provides positive-entry slot engagement and includes pallet guides to assure easy location and entry of engagement tabs on the rear of the pallets. Positive connection in the rear must be made before the pallet will allow engagement in the front column, for a safe and secure load.



REAR X-BRACE PANELS:

The PROSTAK Adjustable Steel Pallet Rack is fully braced at the top and along the back of each section with top and rear x-brace panels. This design creates a very strong and stable rack section.

RACK SECTION:

The PROSTAK Adjustable Steel Pallet Rack is designed for Seismic Zone 2B and is available in 25K, & 36K pounds capacity per section. For Seismic Zone 4 the rack is available in 12K & 18K pounds capacity per section. Available rack heights start at 8 feet and go up to 25 feet.

PROSTAK MRO MANAGEMENT RACK & PALLET FEATURES



FULL LENGTH FORK POCKETS:

The PROSTAK Adjustable Steel Pallet is uniquely designed with full length front-to-back fork pockets. With these unique front-to-back fork pockets the possibility of tipping a load is greatly reduced. Because the fork pockets run the full length of the pallet, the pallet can be picked up from either end, allowing transfer from the stacker to a forklift without removing the load from the pallet.



LOAD PROTECTION FEATURE:

The PROSTAK Adjustable Steel Pallet Rack has a built in load protection feature. When the operator engages the pallet and begins to raise the load the pallet tabs will prevent the pallet from raising the load any higher than the next support pin location. This feature will prevent the load from engaging the bottom of the pallet directly above the load, preventing damage to the load being lifted.



FULL USE OF PALLET AREA:

The PROSTAK Adjustable Steel Pallet is designed with full utilization of the pallet in mind. The pallets are of all steel construction and are rigidly braced for uniform load capacity. Each pallet can be loaded from corner to corner maximizing the use of the entire pallet surface without interference with the back uprights.



PALLET LOADING:

The PROSTAK Steel Pallets are designed to carry a uniform distributed load at the rated capacity, as shown in the top photo on the left. As items are removed from the pallet an unevenly loaded pallet condition occurs, as shown in the bottom photo on the left. Rapistak takes these real world conditions into account. The PROSTAK steel pallets, carriage and mast guide bars are specifically designed to handle these "side loads" up to 50% of rated capacity. This design feature increases the longevity of the equipment and reduces maintenance on wearable components.



PROSTAK MRO MANAGEMENT STACKER FEATURES



MAST BACK STOP:

The PROSTAK Mast Back Stop prevents the operator from accidentally getting pinned between the stacker mast and the opposite pallets. When backing out of the rack the Mast Back Stop comes in contact with the upper front cross brace on the rack, creating a safe zone for the operator.



OPERATOR CANOPY:

The PROSTAK Operator Canopy protects the operator from any objects that may fall from the rack by deflecting the object away from the operator. A flattened wire mesh screen is secured inside the frame allowing the operator to see through the canopy when looking up.



OPERATOR CONTROL CONSOLE:

The operator control console has two handle bars that are protected by 3/16" thick hand guards. The removable pendant controls rest nicely in place for easy, ergonomic control of the stacker crane. A polycarbonate operator window that is shatter and abrasion resistant is in place to provide the operator with improved lines of sight.



REMOVABLE PENDANT CONTROLS:

The operator pushbutton controls are located in a removable pendant station this is mounted on the right hand side of the mast assembly. The pushbutton station includes a red mushroom head emergency stop button, on/off key-switch and two-step pushbuttons to control the PROSTAK motions.



ADJUSTABLE TOE PLATE:

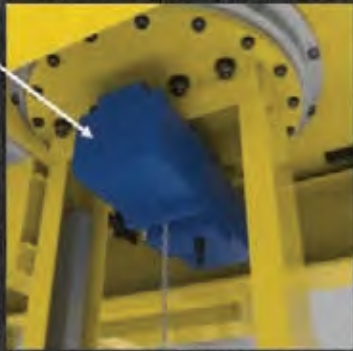
The adjustable toe plate is used to keep a minimum space between the floor and the bottom of the PROSTAK mast. This safety feature prevents the operator from accidentally lodging his foot under the PROSTAK mast.

PROSTAK MRO MANAGEMENT STACKER FEATURES



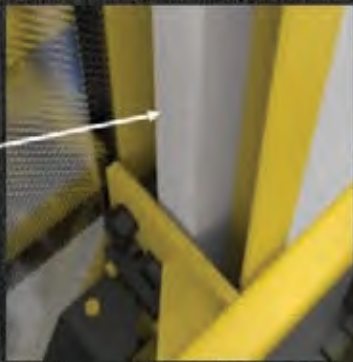
TROLLEY ANTI-KICK-UP BARS:

The trolley is equipped with four anti-kick-up bars designed to prevent the trolley assembly from lifting off the rails, in the event that the mast assembly were to come in contact with something on the floor.



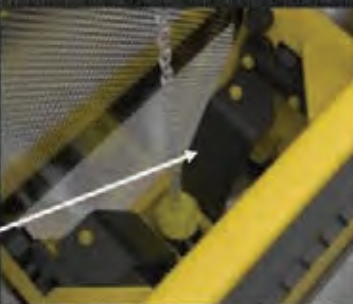
TWO-SPEED ELECTRIC CHAIN HOIST:

The PROSTAK comes equipped with a two-speed electric chain hoist. High speed for productivity and slow speed for precise positioning. Our 2K PROSTAK is 32/8 fpm, and our 4K & 6K PROSTAK is 24/6 fpm. Each hoist is rated to lift the live load (product) plus the weight of the carriage and pallet forks. A properly sized and rated hoist increases the service life of the equipment.



MAST GUIDE RAILS:

Made of a medium carbon heat treated alloy bar, each bar has a Rockwell hardness of up to C32 and a tensile strength of 153,000 psi. The Mast Guide Bars are designed to handle impact loading, resist wear, reduce maintenance and provide smooth operation.



MECHANICAL FREE FALL SAFETY DEVICE:

In the event that the hoist chain were to break the fork carriage is equipped with a mechanical free fall safety device. The device is designed to prevent the load or carriage assembly from free falling to the floor.



BRIDGE SLOW DOWN LIMIT:

Slows the stacker crane down when approaching the end of the runway rail, avoiding a hard collision with the runway end stops. This helps to improve operator and equipment safety and protects items stored on the pallets from damage.

PROSTAK STACKER OPTIONS:

The PROSTAK Stacker has many options designed to aid the operator in equipment operation and safety. With so many options no other stacker, does more.



MAST FLOOR LOCKS

Available on manual stackers only these Mast Floor Locks prevent the stacker from moving while items are being transferred from the pallet. These floor locks can compensate for up to 6" variation in floor level.



MANUAL MAST ROTATION LOCK

Automatically locks the mast perpendicular or parallel to the aisle. The lock can be disengaged to provide 360 degree continuous rotation.



TWO CAMERAS W/ SPLIT SCREEN MONITOR

Gives the operator a full color view to see if the pallets are fully engaged with the pallet pins on the front of the rack.



STATIONARY CAB

Provides a safe working environment while reducing operator fatigue. Operator stationary cabs are great for long systems. Available on fully motorized stackers only.



VERTICAL FORK LOCATOR

Allows the operator to place the forks in the exact position to easily remove and replace the pallets in the vertical numbered position.

TYPICAL MANAGEMENT SYSTEM LAYOUT OPTIONS



SINGLE AISLE TYPE 'A'
Single Row System



SINGLE AISLE TYPE 'B'
Standard System



DOUBLE AISLE TYPE 'C'
End of Aisle Cross Over System



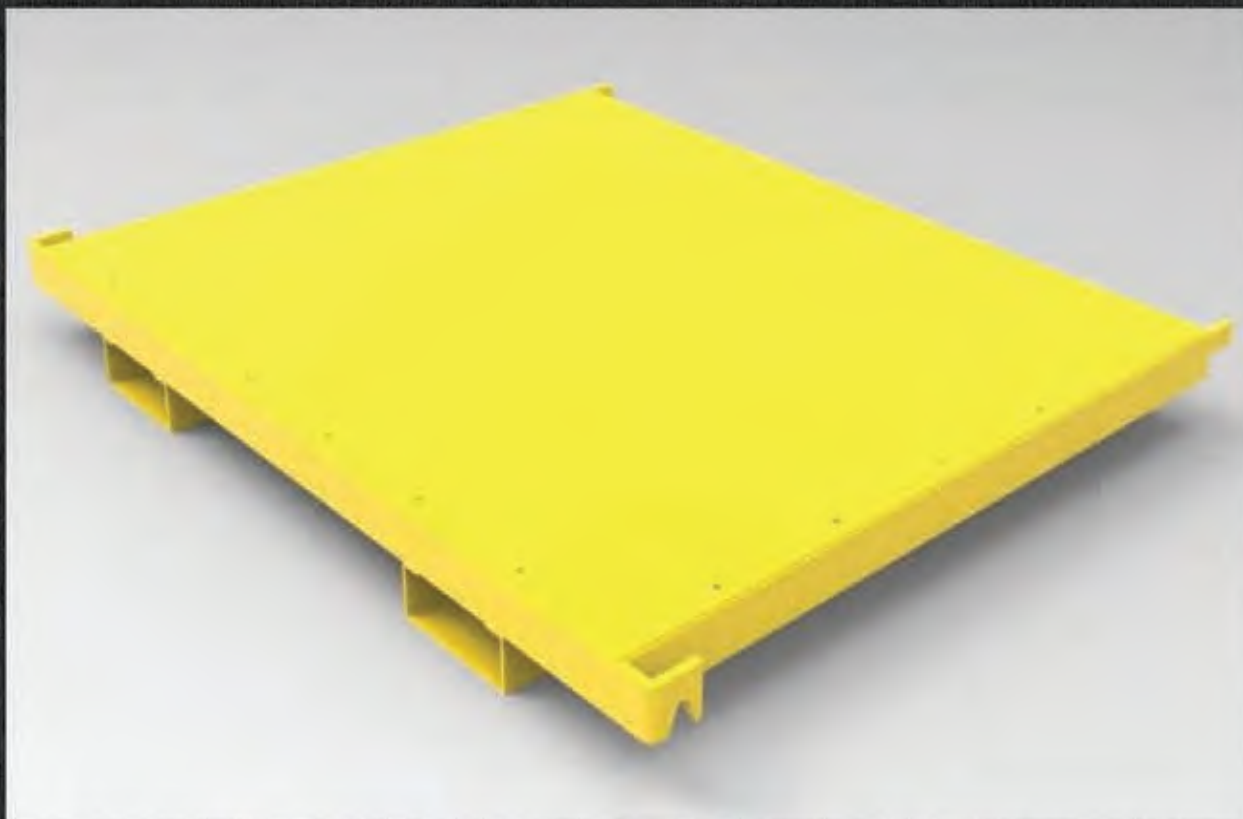
OPTION 'FFCE'
4 FT. Cantilever Rail Extension One End or Both Ends



OPTION 'SSAA'
Single Side Access Aisle



OPTION 'PTAA'
Pass Through Access Aisle



PROSTAK MRO MANAGEMENT SYSTEM PALLETS

2K, 4K AND 6K PALLETS (2,000, 4,000 AND 6,000 LB. CAPACITY, UNIFORMLY DISTRIBUTED LOAD.) Pallets are constructed with heavy gauge steel decking and structural framing. The pallets are equipped with full length fork pockets to prevent tipping of the pallet when loads are not on center of the pallet. The following pallet sizes are available.

PALLET SIZE

30" x 30"
36" x 30"
36" x 36"
42" x 36"
42" x 42"
48" x 48"
52" x 48"

2K MODEL NO.

2KP3030
2KP3630
2KP3636
2KP4236
2KP4242
2KP4848
2KP5248

4K MODEL NO.

4KP3030
4KP3630
4KP3636
4KP4236
4KP4242
4KP4848
4KP5248

6K MODEL NO.

6KP3030
6KP3630
6KP3636
6KP4236
6KP4242
6KP4848
6KP5248



MAGNETIC PALLET LABEL HOLDERS

Made of a tough plastic sleeve, these magnetic holders mount on the face of the pallet. Holders are clear plastic. Labels are white cardstock and are supplied on perforated sheets for use with laser printers. Ideal for identifying what is on each pallet. Use with our rack section floor markers and pallet number sticker kits for even greater organization. Holder Height: 2 inches
Holder Width: 6 inches

PROSTAK MRO MANAGEMENT SYSTEM PALLET OPTIONS



1 1/2" BACK LIP FEATURE

Model: PBL-00



TUB KIT FEATURE

Model: PTK-04

Model: PTK-08

Model: PTK-12



TUB KIT PARTITION FEATURE*

Model: PPR-04

Model: PPR-08

Model: PPR-12



TUB KIT DIVIDER FEATURE**

Model: PDV-04

Model: PDV-08

Model: PDV-12



TUB KIT w/ DROP DOWN FRONT

Model: PDF-04

Model: PDF-08

Model: PDF-12



FLOW-THRU FEATURE

Model: PFT-00



REEL STORAGE FEATURE

Model: PRS-00

INSTRUCTIONS:

Use the "PROSTAK MRO Management System Pallets" sheet in conjunction with this page.

To complete the pallet part number select a pallet size from the "PROSTAK MRO Management System Pallets" page. Then select the option for the pallet from this page.

Eg. For a 2,000 lb pallet 42" wide by 48" deep with a 8" high tub kit feature the model number would be, 2KP4248-PTK-08.

* Tub Kit feature is required.

** Tub Kit feature and Partition Feature are required.

OPTIONAL PROSTAK MRO MANAGEMENT TRANSFER SYSTEMS



PROSTAK PALLET TRANSFER CARTS

For use with pallet capacities up to 2,000 lbs the PROSTAK Pallet Transfer Carts are designed to support a fully loaded pallet. The PROSTAK Steel pallets drop into the top of the transfer cart and are locked in place to prevent any movement.



PROSTAK PALLET TRANSFER TOWABLE CARTS

For use with pallet capacities up to 6,000 lbs the PROSTAK Pallet Transfer Towable Carts are designed to support a fully loaded pallet. The PROSTAK Steel pallets drop into the top of the towable cart and are locked in place to prevent any movement. A tugger or tow motor can then be attached to tow the towable cart to its destination.



PROSTAK PALLET TRANSFER STATION

For use with pallet capacities up to 6,000 lbs the PROSTAK Pallet Transfer Stations are designed to support a fully loaded pallet. The PROSTAK Steel pallets drop into the top of the transfer station and are locked in place to prevent any movement. The transfer station rides along rails mounted to the floor with anchor bolts. A control station is located off to the side of the transfer station. The operator presses a pushbutton to electrically drive the pallet transfer station to the opposite side of the tracks. When the pallet transfer station stops it is now accessible to be unloaded with a forklift or overhead crane.



PROSTAK PALLET WEIGH STATION

For use with pallet capacities up to 6,000 lbs the PROSTAK Pallet Weigh Stations are designed to support a fully loaded pallet. The PROSTAK Steel pallets are placed on the weigh station to keep track of the weight of each pallet. This helps to prevent an overloaded rack condition when loading the rack. The Pallet Weigh Station also acts as a transfer station for incoming and outgoing pallets.

OPTIONAL RACK SAFETY NETTING



RACK SAFETY NETTING

Prevents items from falling off pallets to provide optimum safety and security. Made with 100% black nylon mesh that is flame retardant tested to meet NFPA standard 701. The netting is bound in 5/16" diameter polypropylene rope on all edges. It easily attaches to the rack uprights using flush mount ties.

OPTIONAL SECURITY FENCING



SECURITY FENCING

Protect your tools, equipment and inventory with security fencing. Wire mesh partitions that can be designed to enclose the PROSTAK MRO Management System are available. We can provide a variety of custom locks to control access to the work area. Proximity readers, card readers, and keypads can be added to the wire partition doors for high security and controlled access.

SYSTEM MANAGEMENT TOOLS

Make it easier to find your assets with Rack Section Floor Markers and Pallet Number Stickers. By marking each section of rack, on either side of the aisle, using consecutive numbers; eg. A1, A2, A3... then numbering each pallet with consecutive numbers; eg. 01, 02, 03... you create a location code. An example location code would read A2-15; rack section A2, pallet number 15. Using a white board, spread sheet, database or asset management software you can manage your assets quickly and effectively.



RACK SECTION FLOOR MARKERS

Made of durable polyester-laminated vinyl, these adhesive-back uppercase characters hold up in moisture, rain and other wet conditions.

Character Height: 4 inches
Marker Height: 5 inches
Marker Width: 1.75 inches



PALLET NUMBER STICKERS

Our black on yellow reflective numbers help you mark each pallet easily. These numbers feature a reflective surface. Effectively visible in dimly-lit or dark areas.

Number Height: 1.5 inches
Marker Height: 1.875 inches
Marker Width: 1.375 inches



RACK SECTION FLOOR STENCILS

Quick-Align PVC Stencil Set, all letters are upper case, 92 piece set.

Number Height: 4 inches
Marker Height: 5.25 inches
Marker Width: 3 inches



SYSTEM MANAGEMENT TOOLS

Take control of your asset management with our ruled White Board and Dry Erase Marker Kit. Keep track of your assets easily with this highly visible Ruled White Board. With a quick visual scan of the white board, know what you have and where in the Stacker Management System you put it. Keep track of who checked it out and for what purpose. Combined with our Rack Section Floor Marking System, Plastic Pallet Label Kits and Pallet Number Stickers and you have complete control over your valuable assets.



RULED WHITE BOARD

Magnetic Gold Ultra Dry Erase 1 x 2 Inch Grid Planner, 2 x 3 Feet, Aluminum Frame

Magnetic dry erase surface is recommended for frequent use.

1 x 2 inch pale gray grid lines make planning easy and professional looking.

Sliding aluminum pen tray keeps pens and magnetic accessories where you want them.

Easy 4-corner mounting system, hardware included.

Clean contemporary look.



DRY ERASE MARKER KIT

Expo Low-Odor Dry Erase Set, Fine Point, 7-Piece with Cleaner, Assorted Colors

Bright, vivid, non-toxic ink is quick-drying, smear-proof, easy to see from a distance, and provides consistent color quality.

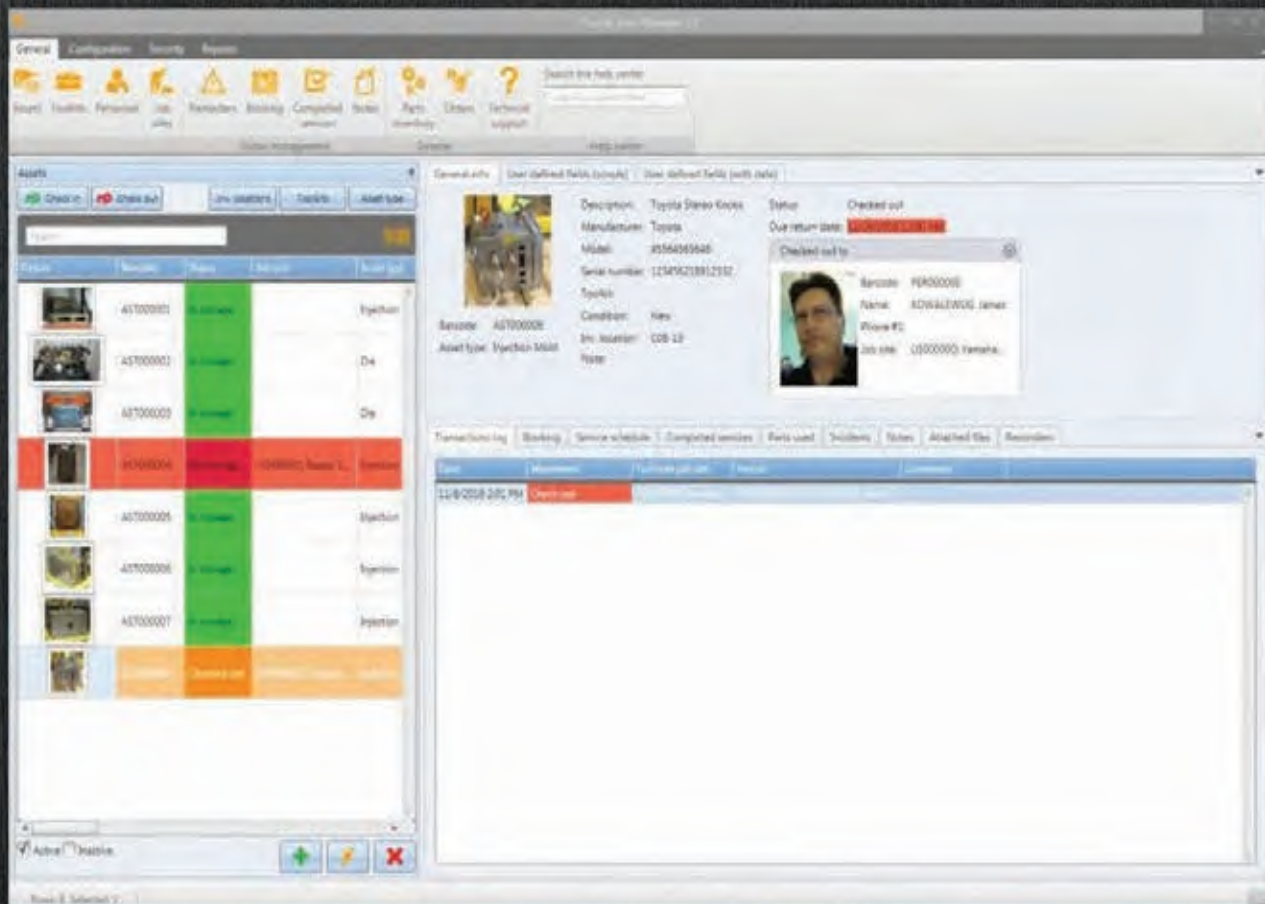
Durable, fine point tip for thin, detailed lines.

Erases cleanly and easily with a dry cloth or Expo eraser.

Ink is specially formulated to be low-odor.

SYSTEM MANAGEMENT TOOLS

Tool and Asset Manager 2.0 keeps track of your tools and assets quickly and easily. Enter your assets description, manufacturer, model, serial number, condition, inventory location and picture. Keep track of who checked it out and for what job. Tool and Asset Manager 2.0 keeps track of your assets, personnel, jobs sites, parts, purchase orders, completed services, reminders and reservations. With Tool and Asset Manager 2.0 you know who has your asset, where the asset is located and when the asset will be returned.

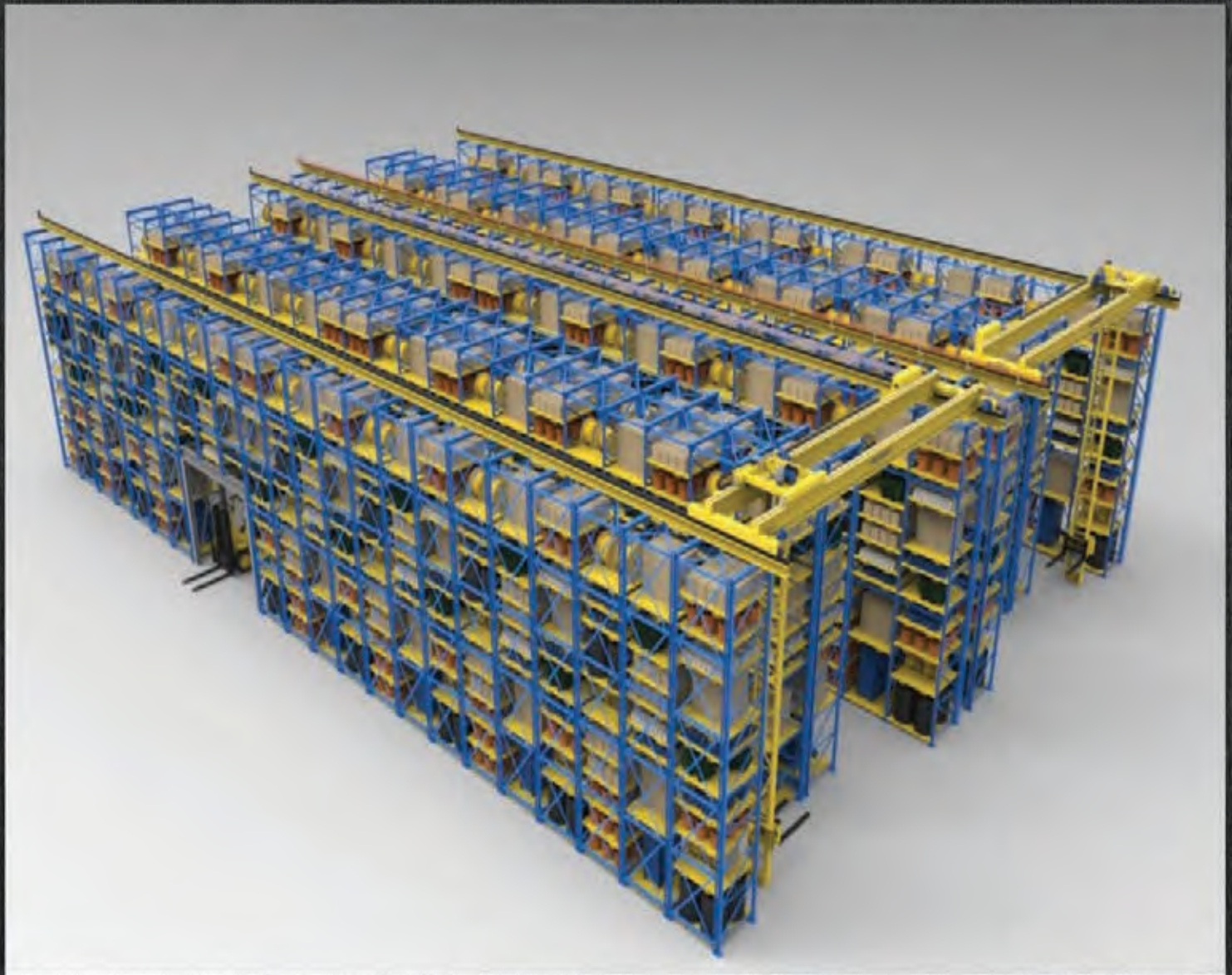


TOOL AND ASSET MANAGEMENT 2.0 FEATURES...

- Print asset reports
- Print personnel reports
- Print vendor reports
- Add an unlimited number of users
- Give users different levels of access
- View the transactions log for each asset
- Schedule bookings for each asset
- Schedule your assets for service
- View completed services
- Track parts used for repairs and maintenance
- Use barcodes to identify assets, personnel, jobs and parts

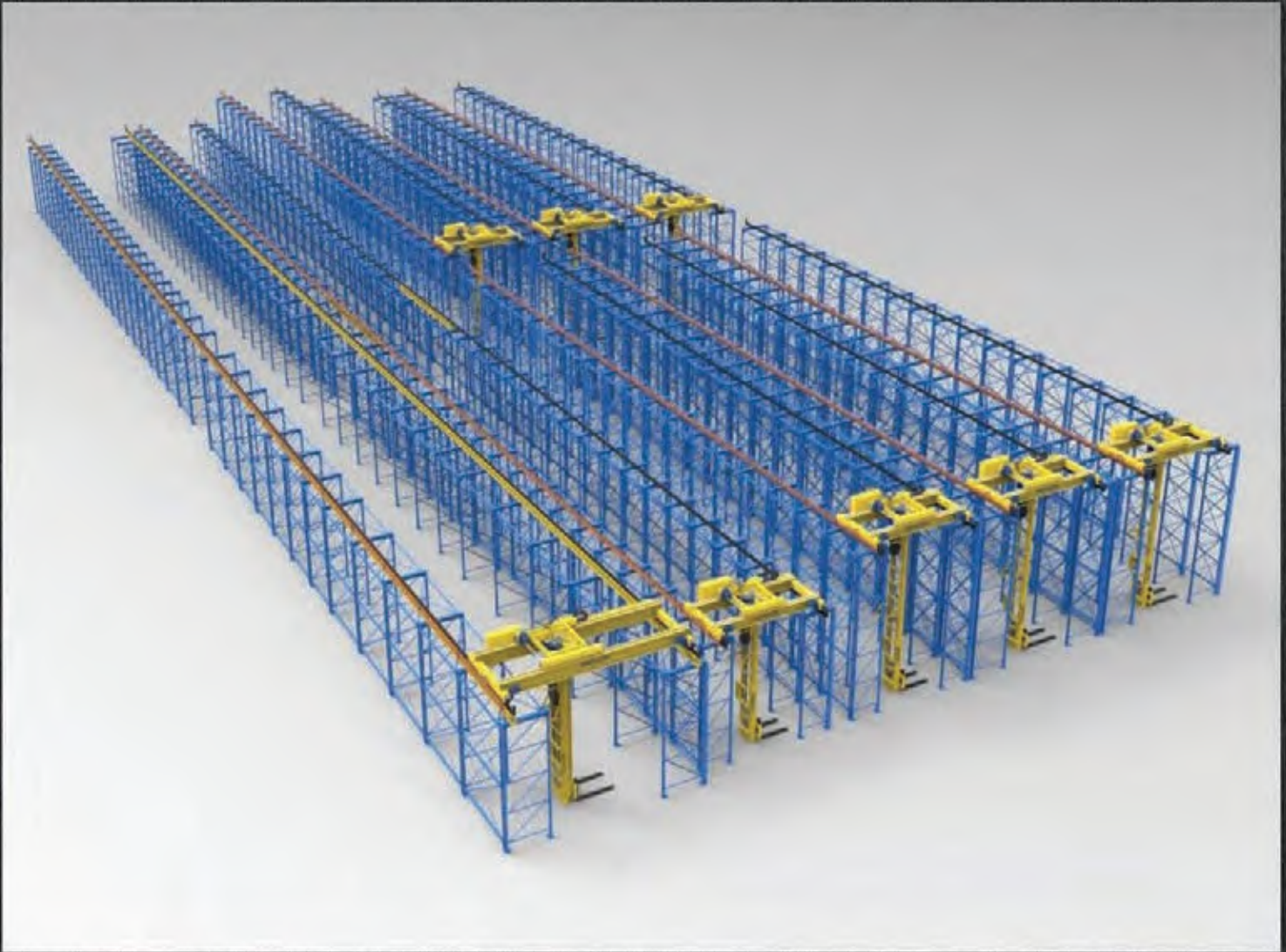
Do more than just store your assets. Manage them with Tool and Asset Manager 2.0!

PROSTAK MRO MANAGEMENT SYSTEM



This PROSTAK MRO Management System was designed for Denver Water OCR in Denver, Colorado. The water authority required more storage using less space in their new facility. This system consisted of one 2,000 pounds capacity double aisle PROSTAK MRO Management System with a side access aisle and one 4,000 pounds capacity double aisle PROSTAK MRO Management System with a side access aisle. This system included (1,108) - 2,000 pounds capacity pallets 48" x 48" and (192) - 4,000 pounds capacity pallets 48" x 48". This system used only 6,906 square feet of floor space due to smaller aisles and a more condensed storage capacity.

PROSTAK MRO MANAGEMENT SYSTEM



This PROSTAK MRO Management System was designed for Chevron Phillips Chemical in Sweeney, Texas. Chevron was looking for a storage system to store maintenance parts in an existing warehouse. Because the roof line was not flat different rack heights were needed to accommodate the vertical storage area. This system consists of one 6,000 pounds capacity system and seven 2,500 pounds capacity systems. There are (272) - 6,000 pounds capacity pallets and (1,375) - 2,500 pounds capacity pallets of various sizes. This system used only 16,347 square feet of floor space due to smaller aisles and a more condensed storage capacity.