



**Leading  
Innovator of  
Vertical Solutions**



Unique product features that deliver efficiency, performance and safety.

## Leading the Industry, Now and Always

PFlow pioneered the vertical reciprocating conveyor industry in 1977. We've never looked back. Every day, we're innovating products that lift success.

Our engineering team – by far the largest in the market – will solve any vertical lifting challenge. From aeronautics to automotive, petrochemical to printing, PFlow creates solutions for every industry.

Each project is unique. That's why, at PFlow, innovation never ends. Others copy us. They'll never catch us.

<b>Best Lifecycle Costs:</b>	PFlow uses heavier-gauge steel, larger shafts, stronger bearings and industrial-grade motors in its vertical lifting systems. The results? Greater durability, less maintenance, and the lowest lifecycle costs.
<b>Singular Focus:</b>	PFlow created the vertical reciprocating conveyor (VRC) industry. Our sole focus is lifting products. All of PFlow's research, development and design centers around manufacturing the strongest, safest, most reliable VRCs on the market.
<b>Strength in Numbers:</b>	PFlow has manufactured and sold over 18,000 VRCs, more than double its combined competitors. Customers recognize quality. PFlow delivers it.
<b>Custom Design:</b>	All PFlow products are custom designed and built to exact specifications – no "one size fits all" here. Dimensions and capacities match customers' unique needs. Applications are engineered to order.
<b>Superior Safety:</b>	Safety is built into every element of a PFlow lifting system. All products are built 3-to-1 over yield on structure, and all lifting components exceed industry design standards. The patented DeckLock system increases safety during load handling and unloading. The DeckLock Systems also protects materials and equipment. Unparalleled design, coupled with stronger components, builds superior safety into all PFlow VRCs.
<b>Largest Product Selection:</b>	PFlow offers the greatest variety of VRCs on the market, all with greater capacities, faster speeds and longer lifespans than competitors' products. Every PFlow VRC is custom built to match the customer's exact specifications and needs.
<b>Unmatched Installation Capability:</b>	PFlow offers complete installation service for all its products, or assistance with the installation process. PFlow can help customers find certified local installers, many of whom were trained by PFlow, through its long-term relationships with distributors.
<b>Spectacular Service:</b>	The dedicated, highly-trained service team at PFlow has more than 75 years combined experience – far and away, the most in the VRC industry! You're never on your own, whether for product installation, on-site troubleshooting, shipping parts overnight, or any other need.
<b>Hands-On Product Training:</b>	PFlow offers on-site training for customers in operation and maintenance of its products. Educated employees are critical to safe and efficient use of VRCs.
<b>Low-Risk Code Compliance:</b>	PFlow helped shape safety and regulatory codes governing the VRC industry, and guarantees that its products meet all federal, state and local requirements. PFlow is the only VRC manufacturer with a full-time code specialist on staff, who continuously monitors legislation and compliance, and is available for on-site consultation with customers.
<b>Engineering Expertise:</b>	The expert, award-winning engineering team at PFlow has hundreds of years of VRC industry experience, far exceeding any competitor. Its collective expertise and know-how ensures that cost-effective solutions can be found for any challenge, no matter how complicated.
<b>Fast Order Processing:</b>	PFlow's emphasis on lean manufacturing means that, when customers place an order, their product is delivered expediently – custom built, and ready to perform.
<b>Global Footprint:</b>	PFlow has installed VRCs in five of the world's seven continents. Wherever you are, PFlow will provide vertical lifting solutions that meet your material handling needs.
<b>Persistent Problem-Solving:</b>	Everyone at PFlow is completely dedicated to the design, manufacture and servicing of VRCs. They've overcome the toughest challenges. No problem is too large, or too hard, to solve. As a PFlow customer, this team is on your side.

We don't "make sales."  
We create solutions.



Meet the team working for you.

For more than four decades, everyone at PFlow has focused solely on serving customers. Their continuous dedication to innovation – and your success – is unmatched.

## Industry-Leading Service and Product Support

PFlow's unparalleled service and product support mean that you're never on your own.

From pre-installation planning, to installation, or trouble shooting, we're here for you. Service begins immediately, and never ends. Our experienced, professional team is always ready to help.

Unlike some competitors, we embrace the concept of "service after the sale." Why? Because, to us, you're a customer - not a "sale." It's a distinction we never forget.

PFlow takes tremendous pride in our products' performance and durability. Our service team is committed to providing the best customer support anywhere – no questions asked.

With lifts operating in five of the world's seven continents, our highly-trained technicians are available for consultation 24/7.

Contact the PFlow service team for assistance with:

- Installation Supervision
- Start-up
- Maintenance Training
- Operator Training
- Maintenance Contracts
- Safety Inspections
- Code Compliance Inspections

Our web site ([www.pflow.com](http://www.pflow.com)) contains a wealth of easily-accessible resources: owners manuals, installation manuals, CAD drawings, dimensions and data, CSI specifications, comprehensive AIA (American Institute of Architects) specifications, and more.

Our people make the big difference. For troubleshooting, field training or any other needs, the PFlow service and support team stands ready. You'll work with people who know how to help and, as importantly, want to help – because, above all, we value our relationship with you.

PFlow leads, collaborates, and stays current on industry trends through various associations. PFlow and its employees are members of APICS, ASQ, ASME, AWS, CSS, MHIA, MHI, NAEC, NFIB, NSPE, SME, and TEC.



PFlow Sales School



State-of-the-Art PFlow Showroom







**Movable Platform – Custom 4-Post VRC**  
Includes a retractable lower aluminum ramp and power roll-up doors. 3500 lbs. capacity.



**Moving Floor System – Custom Design**  
390' x 25' moving-floor, weighs in at just under one million lbs. and uses a string of wheeled carts, with a working surface of steel plates. 20,000 lbs. point loads; 4' per minute horizontal travel speed.



**Mirror Lift System – 6-Post Mechanical VRC**  
Winner of 2016 Governor's New Product Award. 161,000 lbs. lifting capacity; 78' lift travel; 4 levels of service; 10' per minute travel speed.



**Stadium Concourse Lift – F Series Mechanical VRC**  
12' high clearance for the University of Texas Longhorns; 12,000 lbs. lifting capacity; fully ascends/descends in 30 seconds.



**Missile Work Platform – Custom Screw Lift**  
Vertical travel is controlled via screw lifts. Travels laterally on 18" wheels. 6,500 lbs. lifting capacity.



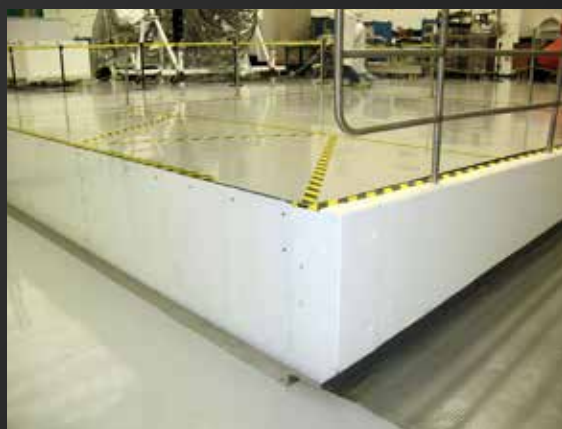
**University Research – High-Capacity Lift – Custom 4-Post VRC**  
This precise vertical and circular motion lift is installed in a scientific accelerator facility for nuclear science. 26,000 lbs. lifting capacity; 19' lift travel; 5' per minute travel speed.



**Aeronautics Lift – M Series Mechanical VRC**  
Moves materials to assist with the production of airplanes. 5,000 lbs. lifting capacity; 18' 7" lift travel; 3 levels of service; 27' per minute travel speed.



**Boat Mold Lift – F Series Mechanical VRC**  
Retrofitted design doubled storage space for fiberglass mold dollies in lamination production area. 5,000 lbs. lifting capacity.



**Screw Lift – Custom Platform**  
Rectangular 18.5' x 20' platform provides absolute stability needed to move satellites. 80,000 lbs. lifting capacity; 3' per minute travel speed.



**Winery Lift – F Series Mechanical VRC**  
This through-floor application is in service year-round, and in constant use 12-14 hours each day. 20,000 lbs. lifting capacity; 26' lift travel; 3 levels of service.



**Robotic Parking System – High-Speed Vertical Lifts**  
7-level, high-speed vertical parking garage stores 325 cars. Programmable controls ensure uninterrupted operation. Lifts send and retrieve automobiles at a rate of 400 FPM.



**Fuel Cell Energy Material Lifts – F Series Mechanical VRC**  
Combination of two material lifts. The first is a screw lift mechanism. The second is a material lift that traverses sideways and lowers onto the first lift. 5,000 lbs. lifting capacity; 18' lift travel; 3 levels of service; 17' per minute travel speed.





**Telescope Lift – Custom Designed 4-Post VRC**  
19' x 19' lift carriage and dual motor drive transport the telescope's delicate mirror. 54,000 lbs. lifting capacity (44,000 lb. mirror/10,000 lb. carriage); 76' lift travel; 5' per minute travel speed.



**Distribution Center Material Lifts – F Series Mechanical VRC**  
Global logistics distribution center relies heavily on 20 high-capacity VRCs with state-of-the-art sorting capabilities. 15,000 lbs. lifting capacity per lift.



**9-Ton Window Operators – Special Application**  
Two windows in private Florida residence split like freight elevator doors, and can be completely hidden in the walls. 33' wide x 22' high.



**Beer Keg Lift – M Series Mechanical Cantilever VRC**  
These four lifts assist in the movement of 1,600 kegs throughout an NFL game. 40' per minute travel speed.



**Telecommunications Lift – High-Capacity VRC**  
Designed to move 20' shipping containers into a secure underground facility. 50,000 lbs. lifting capacity; 40' lift travel.



**Home Appliance Lifts – M Series Mechanical VRC**  
Ten lifts installed as a mezzanine application, including a conveyerized system. 1,200 lbs. lifting capacity; 200' per minute travel speed.



**Waste Incinerator Lift – F Series Mechanical VRC**  
Lift moves contraband materials seized by law enforcement authorities from the ground level to an elevated incinerator. 15,000 lbs. lifting capacity; 79' lift travel; 37' per minute travel speed.



**Naval Shipyard Drydock – F Series Mechanical VRC**  
High-capacity lift moves materials and equipment used to build, repair and modernize the Navy's largest ships. 30,000 lbs. lifting capacity; 50' lift travel; 30' per minute travel speed.



**Motorcycle Lift – 21 Series Hydraulic VRC**  
Transports motorcycles and parts between service and storage levels. 2,000 lbs. lifting capacity.



**Mini Dealership Lift – F Series Mechanical VRC**  
Shaftway application uses 14' x 20' carriage to move vehicles. 10,000 lbs. lifting capacity.



**Public Utility High-Capacity Lift – F Series Mechanical VRC**  
Mezzanine application services a hydroelectric dam for moving components and parts. 20,000 lbs. lifting capacity; 40' lift travel.



**Auto Dealership High Rise Lift – F Series Mechanical VRC**  
High-capacity lift moves luxury automobiles to storage and service levels. 8,000 lbs. lifting capacity; 73' lift travel; 6 levels of service.



**1**

## M SERIES MECHANICAL VRC

A robust, versatile lift ideal for high-capacity, high-cycle applications between two or more levels. Accommodates indoor and outdoor environments.

**2**

## FULLY AUTOMATED LIFT SYSTEM

PFlow's fully-automated lifting system can handle loads in a high-throughput operation. Using programmable controls (PLCs), it accommodates multiple traffic flow patterns and different vertical levels.

**3**

## MOVING FLOOR ASSEMBLY LINE

Custom moving floor systems are used in numerous manufacturing processes. PFlow's fully-integrated lifts increase productivity, improve safety and lower facility work costs.

Compared to typical assembly line systems using slat conveyors:

- Lower cost
- Lower maintenance
- Higher reliability
- Heavier overall load capacity
- Higher point load capacity
- Customized to specific application

**4**

## D SERIES HYDRAULIC VRC

This entry-level, hydraulic 2-level low-maintenance lift is ideal for mezzanine and balcony applications up to 15'. It's the low-cost way to move lighter pallet loads!

**5**

## B SERIES BOX LIFT

Pre-wired modular lift designed to move small loads between floors. Hand loaded on each level at an ergonomic height.

### PFLOW LIFT CAPABILITY STANDARDS

	Mechanical	Hydraulic
Lift Capacity	Up to 50,000 lbs. or more	Up to 8,000 lbs.
Vertical Travel	Up to 200' and more	Up to 22'
Travel Speed	Up to 400 FPM	Up to 24 FPM
Carriage Size	3' x 3' and up	Up to 12' x 10'
Automated Capabilities	Yes	No

PFLOW can design and build custom lifts up to 300,000 lbs. lift capacity.

**8**

## F SERIES MECHANICAL VRC

The ultimate VRC is designed with four guide columns to support large carriage sizes and heavy-duty loads. With flexible load configurations and added safety features, materials securely travel between two or more levels. Known as the "Hercules of VRCs!"

**7**

## SCREW LIFTS

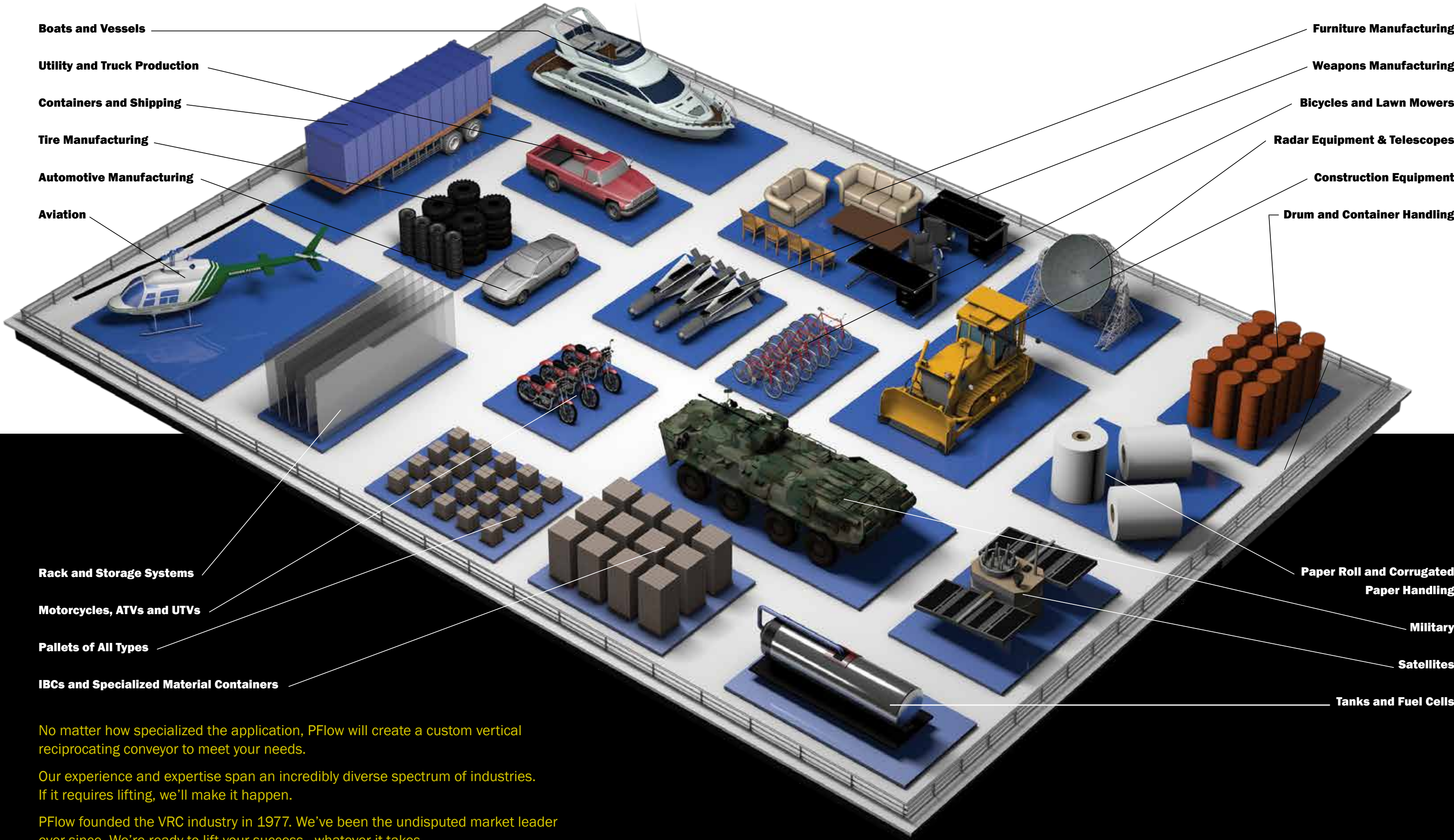
A specialized lifting solution for applications that require high levels of precision, accuracy and stability. Used in advanced manufacturing and high-performance areas.

**6**

## 21 SERIES HYDRAULIC VRC

Boasts higher vertical travel up to 22', capacities to 8,000 lbs. and larger carriage sizes! The 21 offers the PFlow patented torsion bar for level carriage movement.





**Boats and Vessels**

**Utility and Truck Production**

**Containers and Shipping**

**Tire Manufacturing**

**Automotive Manufacturing**

**Aviation**

**Furniture Manufacturing**

**Weapons Manufacturing**

**Bicycles and Lawn Mowers**

**Radar Equipment & Telescopes**

**Construction Equipment**

**Drum and Container Handling**

**Rack and Storage Systems**

**Motorcycles, ATVs and UTVs**

**Pallets of All Types**

**IBCs and Specialized Material Containers**

**Paper Roll and Corrugated Paper Handling**

**Military**

**Satellites**

**Tanks and Fuel Cells**

No matter how specialized the application, PFlow will create a custom vertical reciprocating conveyor to meet your needs.

Our experience and expertise span an incredibly diverse spectrum of industries. If it requires lifting, we'll make it happen.

PFlow founded the VRC industry in 1977. We've been the undisputed market leader ever since. We're ready to lift your success - whatever it takes.



**Transports large, heavy loads  
between two or more levels.**

**Ideal for high-speed or  
high-cycle automated systems.**



- Lifts loads up to 10,000 lbs.  
Carriage size 12' x 12' standard.  
Customization available for larger sizes.
- Vertical rise to 200' or more.  
Standard travel speed is 25-30 FPM.
- Straddle or cantilever.
- Indoor or outdoor use.

- Lifetime structural warranty.
- ASME B20.1 compliant.
- Superior strength, reliability and long-term performance.
- Carriage is lifted and lowered by heavy-duty roller chain using a shaft-mounted gear reducer and motor, mounted atop 6" guide columns.
- Advanced built-in safety features protect workers and materials.
- Certified safety cams prevent carriage descent in the event of a chain failure.

- DeckLock Safety System available for added security at critical upper levels.
- Optional hot-dipped galvanized or epoxy finish available for outdoor or wash-down environments.
- Explosion-proof components available for classified environments.

## GENERAL

Principal components of the M Series are guide columns, carriage and a motor-gear reducer drive.

## STRUCTURE

Guide columns are 6" wide flange sections. Carriage is fabricated with heavy structural steel members and a steel deck plate. Other deck surfaces can be supplied. Straddle or cantilever carriage available, depending on application.

## OPERATION

Carriage is lifted and lowered by roller chain attached to an electric motor/reducer assembly mounted on the guide columns. Standard units employ 2 HP to 15 HP TEFC brake motors.

## ELECTRICAL

Standard power requirements are 230/460VAC, 3-phase. Control voltage is 110VAC. Standard control panels and push button stations are NEMA 12 rated. Push button stations provided at each level include momentary contact, call/send operators and mushroom head emergency stop.

## SAFETY FEATURES

Travel of the carriage is controlled by a limit switch. When the switch is tripped or power is lost, the motor shuts off and the mechanically actuated brake is engaged. Overload protection is provided by a relay that measures the motor current. If the current exceeds the amount required to move the maximum load, it will shut the unit down and engage the brake. Chain sensors shut down the lift if chain tension is lost. Chain tensioners and guides prevent chains from jumping on sprockets. NO RIDER signs posted at each point of operation.

## CARRIAGE SIDE GUARDS

Carriage is equipped with safety rails on non-operating sides, and a safety chain, drop bars or gates on operating ends. Optional expanded metal or sheet metal carriage side guards available.

## SAFETY ENCLOSURES / GATES

Safety codes (ASME B20.1) require interlocked gates with enclosures on all sides of the lift. Enclosures must be a minimum of 8' high and reject a ball 2" in diameter. See page 23 for additional information.





**Transports multiple pallets, oversized materials, large carts or heavy machinery between two or more levels. Ideal for high-speed, high-cycle or automated systems.**



- Lifts loads up to 50,000 lbs. Customization available for heavier loads.
- Unlimited carriage sizes.
- Unlimited vertical rise.
- Standard travel speed is 20 FPM.
- Indoor or outdoor use.
- Lifetime structural warranty.

- ASME B20.1 compliant.
- Carriage is lifted and lowered by heavy-duty roller chain attached to mechanical lifting mechanism, mounted atop guide columns. Guide columns vary from 6" to 12".
- Four-post design allows loading and unloading from all sides with flexible traffic patterns.
- Advanced built-in safety features protect workers and materials.

- Certified safety cams prevent carriage descent in the event of a chain failure.
- DeckLock Safety System available for added security at critical upper levels.
- Optional hot-dipped galvanized or epoxy finish available for outdoor or wash-down environments.
- Explosion-proof components available for classified environments.

#### GENERAL

Principal components of the F Series are guide columns, carriage and a mechanical lifting mechanism.

#### STRUCTURE

Guide columns are built from wide-flange beams. Carriage is fabricated of heavy-duty structural steel members and deck plate. Other deck surfaces available.

#### OPERATION

Carriage is lifted and lowered by roller chain attached to an electric motor-reducer assembly mounted on the guide columns. Standard units employ 2 HP to 15 HP TEFC brake motors.

#### ELECTRICAL

Standard power requirements are 230/460VAC, 3-phase. Control voltage is 110VAC. Standard control panels and push button stations are NEMA 12 rated. Push button stations provided at each level include momentary contact, call/send operators and mushroom head emergency stop.

#### SAFETY FEATURES

Travel of the carriage is controlled by a limit switch. When switch is tripped or power is lost, the motor shuts off and the mechanically actuated brake engages. Overload protection provided by a relay that measures motor current. If the current exceeds the amount required to move the maximum load, it will shut the unit down and engage the brake. Chain sensors shut down the lift if chain tension is lost. Chain tensioners and guides prevent chains from jumping on sprockets. NO RIDER signs posted at each point of operation.

#### CARRIAGE SIDE GUARDS

Carriage is equipped with safety rails on non-operating sides, and a safety chain, drop bars or gates on operating ends. Optional expanded metal or sheet metal carriage side guards available.

#### SAFETY ENCLOSURES / GATES

Safety codes (ASME B20.1) require interlocked gates with enclosures on all sides of the lift. Enclosures must be a minimum of 8' high and reject a ball 2" in diameter. See page 23 for additional information.





**Transports materials between two levels. Carriage remains level regardless of load placement.**



- Lifts loads up to 8,000 lbs. Carriage sizes up to 12' x 10'.
- Vertical rise to 22'. Standard vertical travel is 24 FPM.
- Straddle or cantilever.
- Indoor or outdoor use.
- Lifetime structural warranty.
- ASME B20.1 compliant.

- Carriage is lifted and lowered by chain over sprockets actuated by column-mounted cylinders. Synchronized shaft ensures that carriage stays level at all times.
- Highly stable loading and unloading operations maintained by pressure switch that prevents carriage from drifting or sinking.
- Check valves hold carriage in place in event of power loss
- Certified safety cams prevent carriage descent in the event of a chain failure.

- Velocity fuses prevent uncontrolled carriage descent in the event of a hose rupture.
- Field wiring costs greatly reduced by optional quick-connect cabling for push-button stations and gate interlocks.
- Optional hot-dipped galvanized or epoxy finish available for outdoor or wash-down environments.
- Explosion-proof components available for classified environments.
- DeckLock Safety System available for added security at critical upper levels.



## GENERAL

Principal components of the 21 Series are guide columns, carriage and hydraulic actuating mechanism.

## STRUCTURE

Guide columns are 6" wide flange. Carriage is fabricated of heavy-duty structural members with steel deck plate. Other deck surfaces available. Straddle or cantilever carriage available, depending on application.

## OPERATION

Carriage is lifted and lowered by two hydraulic cylinders mounted on guide columns. Cylinders are actuated by a remote mounted hydraulic pump. Transmission of the lifting force is through roller chain attached to the cylinders and carriage. A torsion bar links the two cylinders to equalize the load and ensure carriage remains level at all times.

## ELECTRICAL

Standard power requirements are 208/230/460VAC, 3-phase (single-phase available). Control voltage is 24VAC. Push button stations and pump mounted pre-wired control panel are NEMA 12 rated. Push button stations provided at each level and include call/send operators and mushroom head emergency stop. Quick connect pre-wiring is optional.

## SAFETY FEATURES

Upward travel of carriage limited by mechanical stops that ensure positive leveling with upper deck. Positive mechanical stops prevent overtravel. Pressure builds to "lock" carriage into position at upper level. NO RIDER signs posted at each point of operation. DeckLock Safety System available for added security at critical upper levels.

## CARRIAGE SIDE GUARDS

Carriage is equipped with safety rails on non-operating sides, and a safety chain, drop bars or gates on operating ends. Optional expanded metal or sheet metal carriage side guards are available.

## SAFETY ENCLOSURES / GATES

Safety codes (ASME B20.1) require interlocked gates with enclosures on all sides of the lift. Enclosures must be a minimum of 8' high and reject a ball 2" in diameter. See page 23 for additional information.





**Transports materials between two levels. Innovative design ensures highly-stable loading and unloading operations.**



- Lifts loads up to 3,000 lbs. Carriage sizes up to 6' x 6'.
- Vertical rise to 15'. Standard vertical travel is 17 FPM.
- Indoor or outdoor use.
- Lifetime structural warranty.
- ASME B20.1 compliant.

- Guided Dual-Pak design is direct action, with no cables, chains, sheaves, sprockets or bearings that can break.
- Highly-stable loading and unloading operations maintained by pressure switch that prevents carriage from drifting or sinking.
- Ultra-high molecular weight, polyethylene cylinder guide improves cylinder life by preventing cylinders from twisting.
- Check valves hold carriage in place in event of power loss.

- Velocity fuses prevent uncontrolled carriage descent in the event of a hose rupture.
- Field wiring costs greatly reduced by optional quick-connect cabling for push-button stations and gate interlocks.
- DeckLock Safety System available for added security at critical upper levels.
- Optional hot-dipped galvanized or epoxy finish available for outdoor or wash-down environments.
- Explosion-proof components available for classified environments.



## GENERAL

Principal components of the D Series are guide columns, carriage and hydraulic actuating mechanism.

## STRUCTURE

Guide columns are 6" wide flange. Carriage is fabricated of heavy-duty structural members with steel deck plate. Other deck surfaces available. Carriage is cantilever design and can be loaded from any of three operating sides, depending on application.

## OPERATION

Carriage is lifted and lowered by two direct-acting hydraulic cylinders. Cylinders are actuated by a remote mounted hydraulic pump. Transmission of the lifting force is direct from the base of guide columns to the carriage, using a Dual-Pak ram.

## ELECTRICAL

Standard power requirements are 208/230/460VAC, 3-phase (single-phase available). Control voltage is 24VAC. Push button stations are NEMA 12 rated. Pump mounted, pre-wired control panel is NEMA 12 rated. Push button stations provided at each level include call/send operators and mushroom head emergency stop. Quick connect pre-wiring is optional.

## SAFETY FEATURES

Upward travel of carriage limited by mechanical stops that ensure positive leveling with upper deck. Positive mechanical stops prevent overtravel. Pressure builds to "lock" carriage into position at upper level. NO RIDER signs posted at each point of operation. DeckLock Safety System available for added security at critical upper levels.

## CARRIAGE SIDE GUARDS

Carriage is equipped with safety rails on non-operating sides, and a safety chain, drop bars or gates on operating ends. Optional expanded metal or sheet metal carriage side guards are available.

## SAFETY ENCLOSURES / GATES

Safety codes (ASME B20.1) require interlocked gates with enclosures on all sides of the lift. Enclosures must be a minimum of 8' high and reject a ball 2" in diameter. See page 23 for additional information.





**Transports loads to mezzanines and between floors. Ideal for lifting boxes, totes, cartons, barrels, sacks, cases and individual parts.**



- Lifts loads up to 500 lbs.
- Standard carriage size is 3' x 3'.
- Vertical rise up to 15' 9".  
30" above floor loading position.
- Standard travel speed is 30 FPM.
- Indoor use only.
- ASME B20.1 compliant.

- Design allows loading and unloading from one of three sides at each level.
- Integral access gates provided at each level and interlocked with lift operation.
- Mechanical motor, electrical components and gear reducer located at base of unit; access panel creates ease of maintenance.
- Unit ships in modular sections pre-wired with "quick connect" wiring.
- Pre-assembled shipment is available, saving time and money on installation.

- Durable, high-quality materials and design ensure reliable long-term performance.
- Advanced built-in safety features protect workers and loads.
- Unit is positioned to load/unload at ergonomic heights on each level.



## GENERAL

Principal components of the B Series are modular steel enclosure frame, mechanical drive assembly and lift carriage.

## STRUCTURE

Stackable modular-formed steel panels provide full-height guarding, and internal guide for carriage assembly. Gate arrangement can be easily changed for right-hand or left-hand swing open pattern.

## OPERATION

Carriage is lifted and lowered by dual roller chains connected to electric motor-reducer assembly. Motor-reducer assembly is mounted within lift enclosure at floor level, with easy-access door for maintenance.

## ELECTRICAL

Standard power requirements are 230V single-phase or 230V/460V 3-phase. Low voltage controls. NEMA 12 rated momentary contact push button stations are provided for each level and include mushroom head E-stop. Quick-connect wiring is provided, and ships partially pre-wired to expedite installation.

## SAFETY FEATURES

The B Series Box Lift is the safest small modular package lift on the market. Its safety elements include exclusive spring-loaded dual safety pins to prevent uncontrolled descent in case of chain failure, electro-mechanical door interlocks, full-height safety enclosures, and overload protection.

## SAFETY ENCLOSURES / GATES

Standard units include interlocked swing gates, and full-height enclosures on all sides. See page 23 for additional information.





Transports loads to mezzanines, between floors or between conveyor levels. Ideal for high-speed applications that require lifting boxes, cartons, packages, totes, containers or cases.



- Lifts loads up to 100 lbs.
- Standard carriage size is 3' x 3'.
- Standard travel speed is 60 FPM.
- Indoor use only.
- Loading and unloading accessible from three sides.

- Saves space by handling loads often transported on an inclined conveyor.
- Smooth, quiet counterweight lifting mechanism minimizes horsepower requirements and saves energy.
- Completely self-contained, self-supporting and economical.
- Durable, high-quality materials and design ensure safe, reliable long-term performance.



## GENERAL

Principal components of the DB Series are guide columns, carriage and mechanical actuating mechanism. All components are pre-assembled for ease of installation.

## STRUCTURE

Frame is constructed of structural steel, and designed to be self-supporting. Carriage is typically supplied with powered roller conveyor deck. Carriage is a cantilever design, and can be loaded from any of three operating sides, depending on the application.

## OPERATION

Carriage is lifted and lowered by dual chains connected to electric motor-reducer assembly. Power unit employs a fractional HP brake motor mounted to top of lift frame.

## ELECTRICAL

Standard power requirements are 230V/460V, 3-phase. Control voltage is 110VAC. Standard push button stations and control panel are NEMA 12 rated. Control panel is designed to be mounted to back of frame; all control devices are pre-wired by manufacturer. A variety of control options are available, from basic interface to PLC automated controls.

## SAFETY FEATURES

Travel of the carriage is controlled by a limit switch. When the switch is tripped or power is lost, the motor shuts off and the mechanically actuated brake is engaged. Overload and carriage over-travel protection is provided.

## SAFETY ENCLOSURES / GATES

Standard units include integral, full-height enclosures on all sides made of 1/2" expanded metal. See page 23 for additional information.





**Code approved, space efficient, and built for maximum protection and performance.**

PFlow safety gates are equipped with a mechanical lock and electric contact, meeting code requirements for manual loading applications.

## Single & Bi-Parting Swing Gates

- Standard single and bi-parting swing gates provide 7' 0" H load clearance.
- Maximum single panel width: 6' W (overall) mounted on a 5' 0" W carriage.
- Standard bi-parting panel width: Up to 11' 0" W (overall) mounted on a 10' 0" W carriage.

## Single & Bi-Parting Sliding Gates

- Pneumatic operators available for push-button operation.
- Standard single and bi-panel slide gates provide 7' 0" H load clearance.
- Standard single panel width: Up to 11' 0" W (overall) mounted on a 10' 0" W carriage.
- Standard bi-parting width: Up to 22' 0" W (overall) mounted on a 20' 0" W carriage.

## Single & Bi-Panel Vertical Acting Gates

- Pneumatic or motorized operators available for push-button operation.
- Counterbalanced with an exclusive cross-shaft design to always keep gate level.
- Non-binding UHMW sliding guides offer superior damage resistance.
- Chain, instead of cable, provides greater durability.
- Standard single panel height and bi-panel closed height is 6' 0" H and provides 7' 0" H clearance.
- Standard width: Up to 14' 0" W for 12' 0" W carriage.

## Swing Gate



## Sliding Gate



## Vertical Acting Gate



**Innovative product designs ensure safe loading and unloading for workers and materials.**

PFlow enclosures are code approved and made of ½" flattened expanded metal for superior strength and longevity.

## Enclosures Built to Protect and Last

- PFlow standard panels are 6" to 5' wide.
- Panels are painted PFlow Blue. Custom paint colors available upon request.
- All mounting hardware included.
- Non-standard sizes, custom finishes and galvanized panels available upon request.

## Required Design Standards for Lifts and Gates

All accessible sides of a unit not used for loading or unloading must be protected by enclosures at least 8' high, and capable of rejecting a ball 2" in diameter at each level. Any combination of shaftways, walls or permanent enclosures that provide equivalent protection is acceptable. If lift service is to the edge of a mezzanine or balcony, only minimal enclosures are required because the equipment is guarded by location.

## Fire Code Requirements

If a floor is penetrated, contact your insurance company or local fire authorities to determine if a fire-rated enclosure is required.

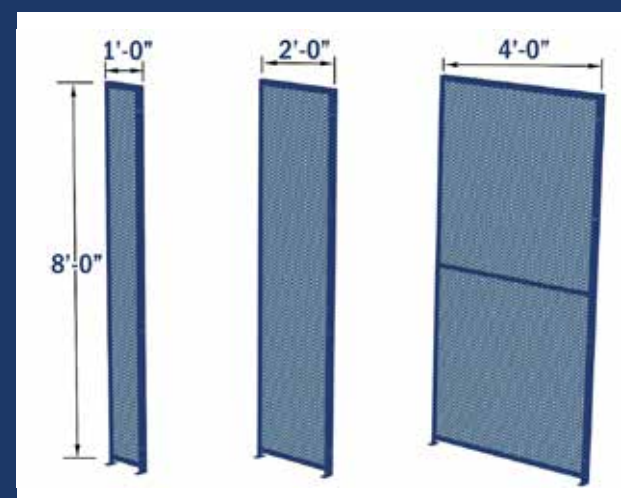
## Optional Visual Safety Barrier

Additional safety at upper most level can be provided when the access gate is open and the carriage is not present.

## Shaftway Applications

When a VRC is penetrating floors that are rated due to fire breaks or environmental conditions, walls and doors configured by others to meet the required conditions may be required. The term typically used is "shaftway." PFlow VRCs can regularly be found behind interlocked doors in new installations, or replacing freight and service elevators, ash lifts, dumbwaiters and other lifting devices.

## Enclosures



PFlow enclosure panels are designed to fit your custom application and comply with local guarding requirements.

## Optional Visual Safety Barrier



Lowered barrier

Raised barrier for access





Safety Features that Perform and Protect

As the pioneering company of the VRC industry, PFlow has engineered safety as a top priority in all its products. Our tremendous research and development emphasis on safety has generated many unique product features, all which meet or exceed code requirements.



Certified Safety Cams

- In the unlikely event of a lifting chain break, the safety cam will immediately and automatically rotate into position.
- Safety cams are mounted on the carriage and positioned between the flanges of the guide column.
- Spring-loaded and designed with a series of hardened teeth.

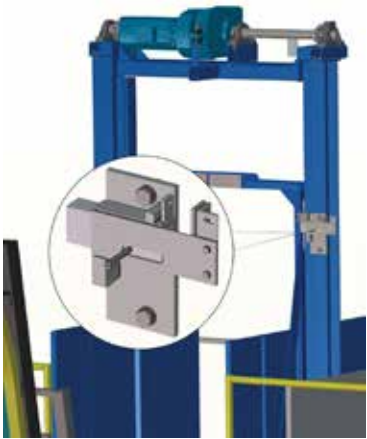
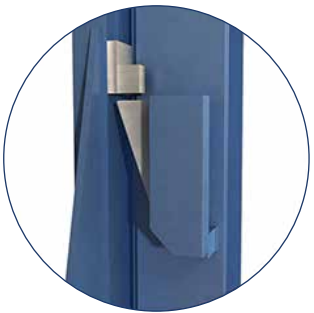
As the safety cams rotate into position, the downward pressure of the carriage forces them into the flanges of the guide columns, preventing carriage descent. When chain tension is returned to normal, the cams rotate back to their inoperative position, allowing the VRC to resume operation. On the M Series and F Series, slack or broken chain conditions are sensed by a switch on the chain tensioner assembly, which cuts power to the drive. All units should be fully inspected before resuming service.



DeckLock System (Optional)

- Protects workers, materials and machines by eliminating accidents caused by carriage drop.
- High-capacity DeckLocks automatically extend to prevent uncontrolled descent at critical upper levels.
- Ensures safe loading and unloading with a forklift.
- Prevents uncontrolled descent in the case of overload or brake malfunction during loading/unloading operations.
- Gate-operated mechanical, pneumatic and electric versions available.
- Can provide absolute positioning if required.

PFlow VRCs are built with a substantial safety factor, but inadvertent overload or lack of maintenance can result in dangerous, unintentional carriage descent. Mechanical VRCs depend upon spring-set brakes to maintain the carriage position. These brakes are sized to provide a minimum of 150% of maximum load capacity; however, wear and lack of brake maintenance can reduce that capacity. Overload of the carriage can cause brake slippage. The exclusive PFlow patented DeckLock system provides additional safety under these conditions.



Maintenance Pins (Optional)

Optional, manually-actuated maintenance pins provide additional safety when performing service on the VRC. The pins extend under the carriage structure to provide one-way assurance that the VRC carriage is properly secured.

Note: Two means to secure the carriage is normally required.

Product Patents Reflecting a Never-ending Commitment to Innovation

PFlow holds more than 20 patents, far exceeding all competitors. It's no surprise. With the largest engineering team in the industry, and a culture focused on innovation, PFlow continues to create new breakthroughs in vertical lift performance and safety.



Quantum Drive

Exceptional performance, durability, increased capacity and faster speeds! This quantum leap in chain-driven technology features reduced vibration and less maintenance. Patent pending.



DeckLock

This exclusive safety system protects workers, materials and machines by preventing uncontrolled carriage descent from upper levels due to overload or brake malfunction.



Moving Floor System

High productivity, coupled with improved safety, are built into this ultra-efficient moving floor assembly line. The flexible design especially lends itself to assembly of large machinery.



Vehicle Display System

Car shopping reaches new heights with this innovative structure, which is custom built for vehicles from small cars to large buses. Vehicles are loaded and unloaded with minimal labor and maximum exposure.

PFlow Patents

1	9,598,242	Moving floor system
2	8,789,661	Visual warning barrier for door assembly
3	8,328,003	Shopping cart conveyor with gate assembly
4	8,075,237	Multi-level vehicle lift
5	7,931,136	Jam sensor for shopping cart conveyor
6	7,779,992	Shopping cart conveyor system with pivoting lug
7	7,453,358	Shopping cart conveyor with gated access
8	7,131,532	Belt attachment device and method
9	6,896,125	Belt attachment device and method
10	6,644,210	Shopping cart conveyor/front wheel alignment/turning system
11	6,490,979	Inclined shopping cart conveyor system
12	6,394,260	Conveyor system including roller-guided carriage assemblies
13	6,360,848	Safety system for a vertical reciprocating conveyor
14	5,941,347	Portable lift
15	5,908,088	Hydraulic drive mechanism for a vertical conveyor
16	5,601,157	DeckLock
17	5,408,789	Overhead security door
18	5,228,537	Safety mechanism for a vertical reciprocating conveyor
19	5,205,379	Vertical conveyor
20	4,987,992	Material transfer apparatus
21	4,227,463	Apparatus for removing and installing batteries



# Elevating Innovation Since 1977

We've designed custom lifts for everything ...

from Truffles



to Toyotas



to Telescopes



and more.

