



CASTER CONCEPTS



MEDIA KIT

PROMAT 2015

16000 E. Michigan | Albion, MI 49224 | 517-629-8838 | www.CasterConcepts.com



CASTER CONCEPTS
Beyond Standard.

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CASTER CONCEPTS

Company Fact Sheet

Founded

1989

History

Caster Concepts was founded by Richard Dobbins, who was the former president of Albion Industries, another caster manufacturer. After one short year of forced retirement, Mr. Dobbins went back to work and created Caster Concepts, a company he ran in a space adjacent to his son's medical office. Today, that company is a state-of-the art manufacturer with innovative processes. Customers turn to Caster Concepts when facing the broadest imaginable caster application challenges within virtually every known industry. Caster Concepts specializes in custom and special caster and wheels made to fit just about any use, compared to competitors with one-size-fits-all solutions.

Product Line

Caster Concepts manufactures a complete line of industrial casters designed to overcome common industry challenges, as well innovative and patented products to overcome major health and safety challenges. Caster Concepts also offers build-to-order custom casters to solve specific challenges.

Ergonomic Products: TWERGO and TWERGO Lite Wheels, ErgoMaxx Rigs, and ErgoTread. Other products include noise-reducing caster, CasterShox; fully aluminum casters with modern suspension; and Motor Powered: Drive Caster

Caster Configurator: This online tool allows users to select an existing caster or design a custom caster. Caster Concepts is equipped to manufacture made-to-order products quickly regardless the quantity.

Employees

90

Headquarters

16000 East Michigan Ave.
Albion, Michigan 49224
(517) 629-8838 or (800) 704-1562

Corporate Leadership

Dr. William Dobbins, President

Website | Social Media

www.casterconcepts.com
[Twitter.com/casterconcepts](https://twitter.com/casterconcepts)
[Facebook.com/casterconcepts](https://facebook.com/casterconcepts)
[YouTube.com/channel/UC2XgqIEZsMhliGTPLReG6MQ](https://youtube.com/channel/UC2XgqIEZsMhliGTPLReG6MQ)
[LinkedIn.com/company/caster-concepts](https://linkedin.com/company/caster-concepts)





CASTER CONCEPTS

Dr. William Dobbins



William Dobbins, M.D., was appointed president and CEO of Caster Concepts in 2003.

Prior to taking over the helm at Caster Concepts, Dr. Dobbins ran a successful family medical practice in Albion, Mich., for more than 25 years. He retired from medicine to takeover the business his father started in 1989.

Since becoming president of Caster Concepts, Inc., Dobbins has focused on expanding the company's existing efficiencies by implementing new manufacturing, inspection, testing and delivery processes that are difficult for competing caster manufacturers to duplicate. To help strengthen the company's position in the market place, Dr. Dobbins returned to school and received an MBA from the Stephen M. Ross School of Business at the University of Michigan.

An avid participant in community activities, Dr. Dobbins has served on the board of the Greater Albion Chamber of Commerce; the Jackson Area Manufacturers Association; and a member of the Albion College Capital Campaign Committee. Dr. Dobbins and his wife Karen started a non-profit in 2007. Swinging at the Shell provides free concerts to the community.

Dr. Dobbins attended Albion College and graduated with a bachelor's degree in biology in 1974 and received his medical degree from the Michigan State University in 1977. He and his wife of 39 years, Karen, reside in Albion and have three children, Andrew, Emily and Caroline.



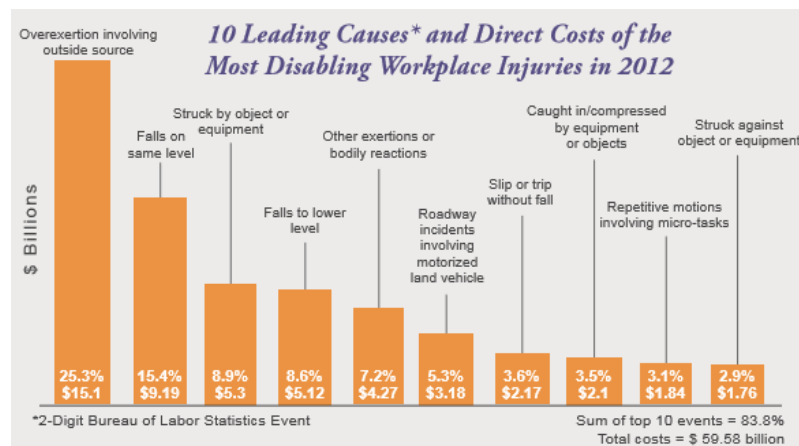


CASTER CONCEPTS

Industry Statistics

Ergonomics

- Overexertion cost businesses \$15.1 billion in direct costs and accounted for more than one quarter of the overall national burdenⁱ.
- **Overexertion involving an outside source** was ranked first among the leading causes of disabling injury accounting for 35% of all casesⁱⁱ.
- The rate of Musculoskeletal Disorders incidents for transportation and warehousing was more than twice the MSD rate for all private industry sectorsⁱⁱ.
- The median number of days away from work for Musculoskeletal disorders is 11 days, the median for all injuries combined is 8 daysⁱⁱ.



Noise

- Every year, approximately 30 million people in the United States are occupationally exposed to hazardous noiseⁱⁱⁱ, 16 Million of them work in the Manufacturing Sector which accounts for 13% of the US workforce.
- According to the Bureau of Labor Statistics, occupational hearing loss is the 2nd most common, non fatal occupational illness.
- A person's hearing loss must be determined to be work-related and the hearing loss must be severe enough that the worker has become hearing impaired, in order to be OSHA-recordable. Many more workers would have measurable occupational hearing loss, but would not yet have become hearing impaired^{iv}.

Note: OSHA sets legal limits on noise exposure in the workplace. These limits are based on a worker's time weighted average over an 8 hour day. With noise, OSHA's permissible exposure limit (PEL) is 90 dBA for all workers for an 8 hour day. The OSHA standard uses a 5 dBA exchange rate. This means that when the noise level is increased by 5 dBA, the amount of time a person can be exposed to a certain noise level to receive the same dose is cut in half.

ⁱ "2014 Liberty Mutual Workplace Safety Index", www.libertymutualgroup.com/researchinstitute

ⁱⁱ "Nonfatal Occupational Injuries and Illnesses Requiring Days Away From Work, 2013" (USD-14-2246), Bureau of Labor Statistics, U.S. Department of Labor

ⁱⁱⁱ "Occupationally-Induced Hearing Loss", DHHS (NIOSH) Publication No. 2010-136

^{iv} "Occupational Noise Exposure", <https://www.osha.gov/SLTC/noisehearingconservation/index.html>





CASTER CONCEPTS



DRIVE CASTER™

MOTOR POWERED CASTER

POWER TO DRIVE
Up To
6,000 LBS. PER CASTER

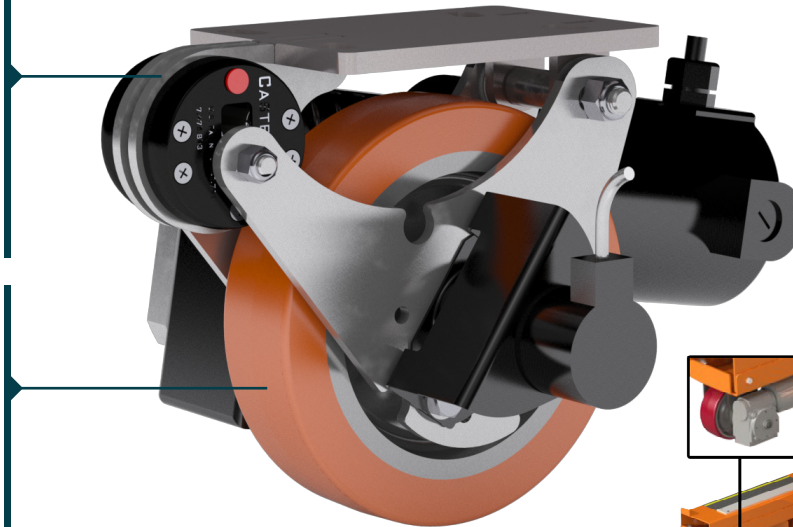
LET THE MOTOR DO THE WORK

Self Contained

- Single unit integrates caster and motor
- Can retrofit existing equipment easily
- Encoder available for automation
- Suspension for uneven flooring

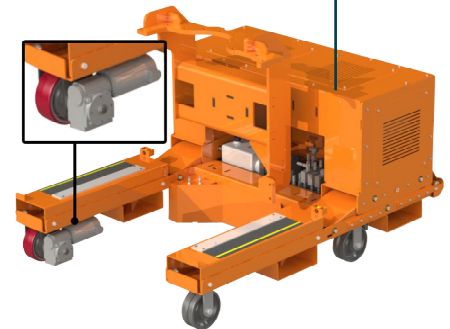
Customizable

- 1/4HP or 1/2HP Motor
- Add a 2nd Drive Caster™ to increase capacity or speed
- Tank steering for easier maneuvering
- Control units available for simplified integration



Applications

- Carts
- Dollies
- Walls
- Platforms
- Turntables



1/4 HP DRIVE CASTER™

- 24 VDC system
- Load carrying capacity up to 1000 lbs.
- Recommended for driving payloads up to 3000 lbs.
- Available wheel sizes: 8" and 6"
- Typical speeds: 2-3 mph depending on payload, wheel size and floor conditions

1/2 HP DRIVE CASTER™

- 24 VDC system
- Load carrying capacity up to 2000 lbs.
- Recommended for driving payloads up to 6000 lbs.
- Available wheel sizes: 12", 10" and 8"
- Typical speeds: 3-5 mph depending on payload, wheel size and floor conditions



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FAQ's

MOTOR POWERED CASTERS

What is the difference between Weight Capacity and Drive Capacity?

Weight capacity of a caster is how much weight that individual caster is rated to carry before some type of failure.

Drive capacity is how much total weight (cart plus load) a single Drive Caster™ can move in a straight line, on a smooth surface. If you require turning or a surface that is uneven, cracked, has debris or is imperfect in other ways, reduce the drive force by 50%, or add a second Drive Caster™ to achieve the same drive capacity.

What is included with a Drive Caster™?

The Drive Caster™ includes the drive wheel, caster rig, and a motor. The motor has a wiring for connection to a battery and a logic controller, these are not included. A Drive Caster™ will require the integration of additional components to be functional. If you require assistance with integration, our subsidiary can help create a complete solution for your needs.

What are my options for steering with a Drive Caster™?

Drive Caster™ motors support "tank" style steering as well as Rack and Pinion steering. "Tank" style steering is used with two Drive Caster™ casters, one motor would be in reverse while the other pushes forward.

Rack and Pinion would handle similar to a car, requiring a larger turn radius.

How many Drive Caster™ casters can I put on one cart?

All the casters on a cart could be Drive Caster™ casters, we suggest using rigid casters as Drive Caster™ casters first, if additional power is needed, swivel Drive Caster™ casters can be used. Most carts have two rigid casters, however some unique applications may use more. Keep in mind that the size of the battery should increase as additional Drive Caster™ casters are integrated.

Is the Drive Caster™ available with Shock Absorption?

Yes, there is an option to add the patented CasterShoX® absorption unit, that allows for about a half inch of flexibility, which helps ensure drive engagement on uneven flooring. CasterShoX® is self contained shock absorber that allows for some flexibility without excessive vibration.

What are the benefits of adding the Encoder option?

The encoder provides measurements, such as distance traveled or speed, information needed for closed loop control systems. The encoder enables automation of the Drive Caster™.

Optional Control Units

- DC Control unit includes 24 VDC battery, charger, battery meter, Control Module with FW/RV and On/Off switch
- AC Control unit includes 120 VAC plug interface, control module with FW/RV, On/Off switch & emergency stop button





TWERGO®

TWIN WHEEL ERGONOMIC

25% REDUCTION

In Force Exerted to
Start and Turn*

*Average when tested against conventional 2" wide casters

PATENTED FORCE REDUCING, PRODUCTIVITY INCREASING WHEELS

Parabolic Wheel Face

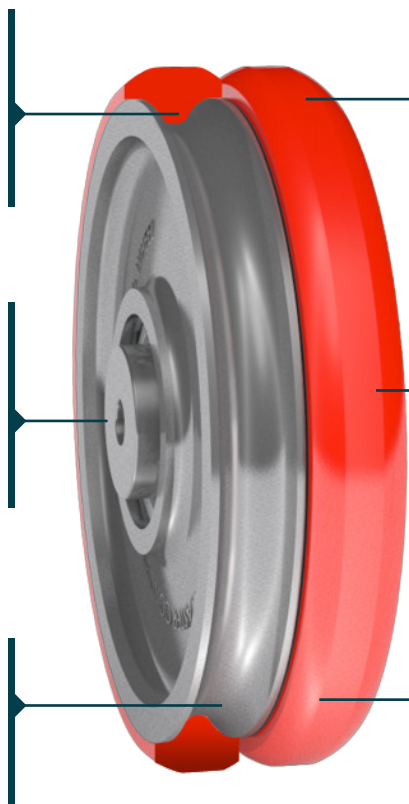
- Achieves 25% average reduction in initial push force to start rolling
- Minimizes wear and risk of damage to tread

Precision Sealed Ball Bearing

- Maintenance-Free, eliminates costs and issues
- Extends use life
- Ensures consistent performance

Aluminum Wheel Core

- Rust-Proof
- Light-weight yet durable
- Aesthetically appealing



Independently Rotating Wheels

- Reduces friction & force exerted when turning or maneuvering
- Minimizes scrubbing and damage to flooring

Thick Tapered Tread

- Disperses debris
- Reduces friction
- Achieves consistent wear, resulting in longer use

Great for AGV's & Tuggers

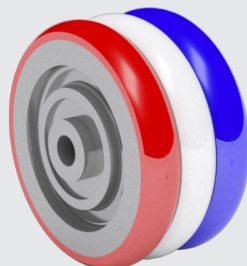
- High weight capacities
- Reliable at higher speeds
- Extends battery life (less power exerted)

*TWERGO with exposed wheel face for demonstration purposes only

TWERGO® = POSITIVE ROI

- Increase productivity without increasing exertion
- Reduce risk of injuries and strains
- High load capacity of up to 4200 lbs.
- Eliminate maintenance cost and challenges
- Reduce scuffing and floor maintenance costs
- Built-to-last
 - No exposed joints or linkages
 - Rust proof Aluminum Core
 - Precision sealed long life bearings

3-Wheel Configuration Available



SPECIFICATIONS

Capacity:	Maximum 4,200 lbs. per caster
Wheel	4x2 5x2 6x2 8x2 10x2
Sizes:	6x3 8x3 10x3 12x3
Wheel Core:	Aluminum
Durometer:	70A 85A 95A 70D Custom polyurethane available
Bearing	Maintenance free
Type:	Precision sealed ball bearing





FAQ's

Twin Wheel ERGOnomic

What is TWERGO®?

TWERGO® is Caster Concepts' patented, lower-exertion, greater-productivity industrial caster. TWERGO® is designed to help manufacturers achieve the maximum ergonomic benefits from its heavy-duty caster wheels. Its unique design reduces the initial push force to start a cart moving by an average of 25 percent. It also reduces the force needed to turn and maneuver a cart.

What makes TWERGO® different?

TWERGO® heavy-duty casters integrate multiple wheels into the standard footprint normally occupied by one wheel. TWERGO®'s patented parabolic wheel face with tapered tread design — coupled with a 2-in-1 and 3-in-1 wheel configuration — promotes increased ergonomics and ease in starting and maneuvering carts. Also, TWERGO® utilizes multiple wheels in that are side by side with no center support bar. This design reduces surface contact and allows the wheels to rotate in the direction and amount that will minimize friction, resulting in less force exerted.

Is TWERGO® durable?

TWERGO® industrial casters are built to last, and engineered to achieve its benefits mechanically. TWERGO® is fabricated with precision sealed ball bearing units that require no maintenance. And, while other industrial casters rely on shape or tread material to achieve ergonomic benefits (a benefit that declines as the tread material degrades or deforms), TWERGO® is designed to perform consistently, and continuously achieve lower force exertion.

What are the ergonomic benefits of TWERGO®?

Because TWERGO® reduces the initial push force required to start a cart rolling, as well as the force required to turn a cart, it reduces the risk of overexertion and musculoskeletal injuries like sprains, strains and tears.

How does TWERGO® increase productivity?

TWERGO® reduces the amount of force a user must exert to start (initial push force), and to keep rolling (continuous push force), by an average of 25%. TWERGO® also significantly reduces the energy exerted to turn and maneuver. If you are pleased with your existing push force, TWERGO® can increase productivity by maintaining your existing push force, while increasing the capacity or load. Therefore, the same cart with TWERGO® wheels can move more of whatever it is you're moving, while maintaining your existing push force, resulting in greater throughput with the same number of loads per day.

When would I choose the 3-in-1 verse the 2-in-1 configuration?

The 3-in-1 configuration is for heavier loads and allows for height advantages in applications that require it. For example, a 3-in-1 configuration with 6-inch-diameter wheels has a maximum capacity of 2,460 pounds per caster, and a 2-in-1 configuration with 10-inch-diameter wheels has a maximum capacity of 2,500 pounds per caster. While they achieve similar weight capacities, the 3-in-1 configuration is four inches shorter.

Can I use TWERGO® on Automatic Guided Vehicles or in Tugger Trains?

Yes, TWERGO® is designed for performance and can handle higher speed applications like AGVs and Tuggers. By reducing the force exerted to start and turn automated vehicles, TWERGO® can actually help improve performance and battery life as well. As always, performance is dependent upon several factors — so please contact our sales team to help determine the best configuration for your application.





TWERGO® Lite

PATENTED PARABOLIC WHEEL

20% AVERAGE REDUCTION
In
Push Force

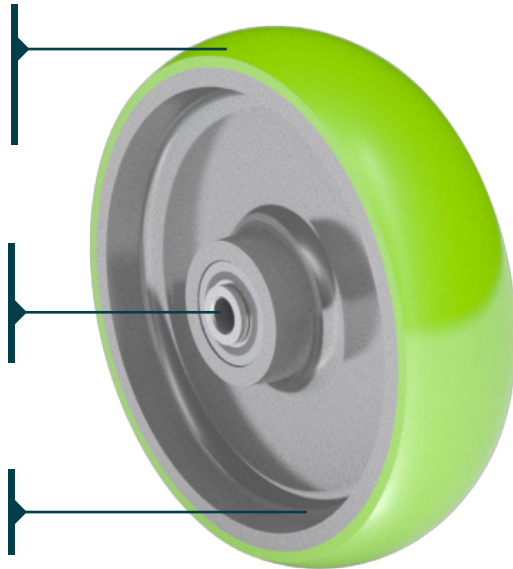
*On cart upto 2,800 lbs. total, when compared to standard wheels

THE ULTIMATE 2" WIDE CASTER WHEEL

- Reduces initial & continuous push force
- Lowers risk of over-exertion

- Maintenance free
- Precision sealed ball bearings

- Durable & Rugged
- Cast Iron Core



Tapered Tread

- Consistent wear
- Longer use life
- Resists debris

Parabolic Face (Patented)

- Ergonomic
- Easier to roll



THE NEW STANDARD IN 2" CASTERS

- Utilizes TWERGO®'s patented parabolic face design
- Reduces push force on loads up to 2,800 lbs.
- Durable and rugged cast iron core
- Competitively priced

SPECIFICATIONS

Capacity:	Maximum 1,600 lbs. per caster
Wheel Sizes:	6x2 8x2
Wheel Core:	Cast Iron
Durometer:	84A 85A 95A Custom polyurethane available
Bearing Type:	Maintenance free, precision sealed ball bearing





FAQ's

PATENTED PARABOLIC WHEEL

What is the difference between TWERGO® and TWERGO® Lite?

TWERGO® is a twin or triple wheel-in-one, TWERGO® Lite is a single wheel. Both wheels utilize our patented parabolic face design and are ergonomic. They both achieve significant reductions in initial push force and force needed to continue rolling. However, TWERGO® Lite ergonomic benefits start to diminish at 2,800 lbs and TWERGO® achieves ergonomic benefits at much greater weights. Also, TWERGO®'s multiple, independently spinning wheels offer reduced friction when turning, resulting in lower push force to turn and maneuver.

What makes TWERGO® Lite the ultimate 2" wide caster?

Dollar for Dollar TWERGO® Lite is the best value in a single wheel 2" wide caster. TWERGO® Lite was designed to help exceed Snook® push table recommendations for push force on carts with a total weight of 2,800lbs or less. TWERGO® Lite has all the benefits of a traditional caster, and adds ergonomic benefits of reduced initial and continuous push force. TWERGO® Lite is priced competitively to standard 2" wide casters, yet standard casters can't compete with TWERGO® Lite.

What Tread Material is used on the TWERGO® Lite wheel?

TWERGO® Lite is available with any of Caster Concepts tread polyurethanes including TR 95, TR 85, HPPT, Dura, Standard and Ergo Treads. Shore hardness ranges from 84A to 95A, however we recommend the Ergo Tread for optimal ergonomic benefits. Custom polyurethane tread formulations are available, contact us for details.

Can I use TWERGO® Lite on AGV's or in Tugger Trains?

Yes, TWERGO® Lite can be used on powered applications, the HPPT tread material is recommended for those applications. However, the original TWERGO® wheel offers significantly greater benefits for powered applications, including higher weight capacities, and reduced friction when turning which allows for longer trains.





CASTERSHOX®

PATENTED SHOX® ABSORPTION SYSTEM

WITH UNPARALLELED NOISE REDUCTION

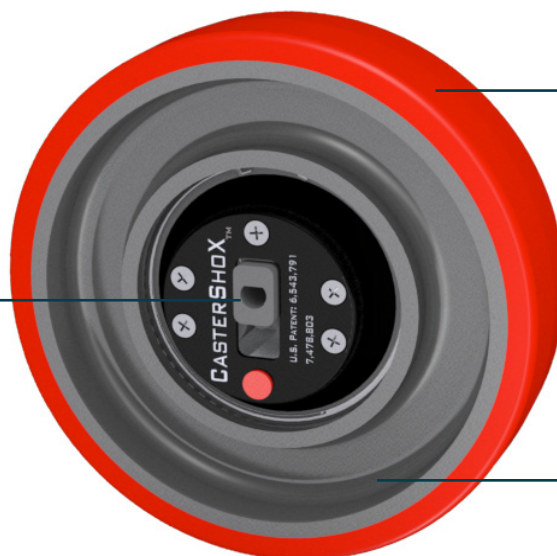
Achieves up to
90%
NOISE
REDUCTION¹

REDUCES
SHOCK LOADS
up to
80%²

REDUCE UP TO 15 DECIBELS (DB) OF NOISE

Patented ShoX® Absorption Unit

- Fully enclosed shock absorber integrated into the caster core
- Custom formulated elastomer spring achieves optimal damping
- Dissipates shock at the source, reducing impact on cart and contents



Reliable & Rugged

- Aluminum SHOX housing
- 1,500 lbs maximum capacity
- Maintenance free
- Precision sealed ball bearing

Safety Matters

"The second most claimed workplace disability is hearing loss linked to manufacturing related noise exposure. The most effective means of reducing occupational noise is to attenuate it at the source."
(OSHA)

1. Based on third party testing in a clients production facility, compared against conventional casters.

2. Based on in-house testing, compared against conventional casters.

CASTERSHOX® vs. SPRING LOADED

- Designed to achieve ultimate noise and shock reduction
- Patented design with customer formulated elastomer spring and damping quickly stops vibration
- Absorbs shock at the axle level reducing impact on cart and contents

- Designed to reduce impact of shock
- Metal coil spring expands and contracts continuously until shock is fully dissipated
- Springs are external to wheels, spreading vibration on to the cart and contents

SPECIFICATIONS

Capacity:	Maximum 1,500 lbs. per caster
Wheel Sizes:	6x2 8x2
Wheel Core:	Aluminum Cast Iron
Durometer:	70A 85A 95A 70D Custom polyurethane available
Bearing Type:	Precision machine sealed ball Bearing maintenance free





FAQ's

PATENTED SHO^X® ABSORPTION SYSTEM

WITH UNPARALLELED NOISE REDUCTION

What is CASTERSHO^X®?

CasterShoX[®] is Caster Concepts' patented shock-absorbing technology, integrated into a heavy-duty caster. The ShoX[®] absorption system that is integrated into the center of a CasterShoX[®] wheel is considered a revolutionary technology for casters.

How is CASTERSHO^X® different than traditional casters?

CasterShoX[®] were designed specifically to help reduce noise in manufacturing facilities. This is achieved via the integration of a patented ShoX[®] absorbing technology at the core of the industrial caster. The ShoX[®] serves to provide a smoother ride while also adding damping – defined as an influence on a repetitive motion that reduces, restricts or prevents the motion. This greatly reduces noise caused by carts. Traditional spring-loaded industrial casters use a coiled metal spring implemented above the wheel. When the wheel is shocked, it vibrates repeatedly, causing the carts and its contents to shake. CasterShoX[®] fully integrates the ShoX technology into the wheel, unlike any other caster with shock absorption. The placement of the shock at the wheel level contains most of the impact of the shock below the cart, while the damping qualities greatly reduce the noise and vibration caused by the shock.

What's the benefit of CASTERSHO^X®?

Because of its innovative design, CasterShoX is able to achieve up to 90 percent noise reduction and reduce the impact of a shock by up to 80 percent. Also, the CasterShoX[®] fully integrated design makes it user replaceable and easier to service.

Why is reducing noise so important?

Noise in the workplace is the second-leading cause of worker illness and injury, causing 12 percent of such maladies. Hearing loss leads the list of the most commonly known health effects caused by excessive exposure to noise. Whether temporary or permanent, hearing loss can often lead to downtime and lost productivity for both the company and employee. Exposure to constant or high levels of noise can cause countless adverse health effects beyond hearing loss as well. These include stress-related illness, high blood pressure, speech interference and more. Noise also causes other detriments in the workplace including, increased risk of accidents, interference with communication and performance, and greater probability of error. Furthermore, noisy work environments lead to a sense of isolation, annoyance, difficulty concentrating, lowered morale, reduced efficiency, and absenteeism.

What is the load capacity for CASTERSHO^X®?

The ShoX[®] absorption system maximum load capacity is 1,200 lbs per caster.





ERGOMAXX™

MAINTENANCE FREE
KINGPINLESS RIGS

25% REDUCTION*
In Push Force

*Average on initial push force when wheels are not all at same angle

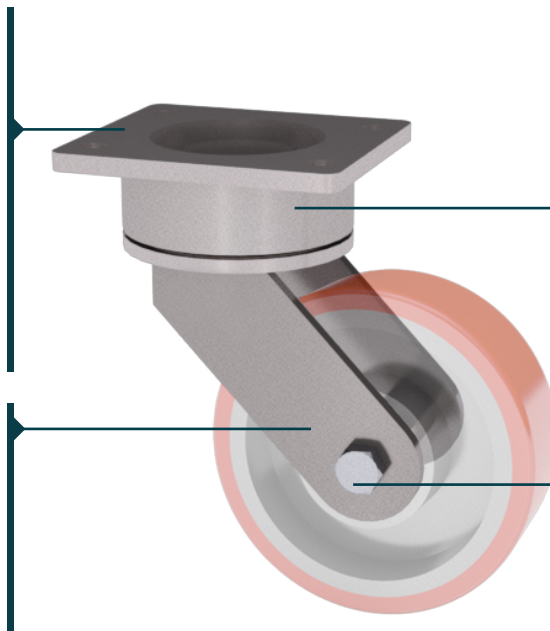
EXERTION REDUCING SWIVEL RIGS

Maintenance Free

- Eliminates maintenance cost and hassle
- Precision sealed ball bearings with hardened raceways and neoprene seals never need greasing
- Kingpinless – Never needs adjusting

Ergonomic: Reduce Force Exerted

- Initial push force when wheels are not all aligned
- Force needed to turn or maneuver



Precision Made

- Reduces wear
- Eliminates vibration & play
- Easier to maneuver & turn
- Extends use life
- Consistent performance

Durable & Reliable

- Kingpinless, eliminating leading cause of failure
- Continuous, double weld on inside and outside of legs
- Corrosion and rust resistant zinc plated finish

OPTIONS

- Brakes
- Swivel Locks
- Toe Guard
- Top Plate Bolt Pattern

	Series 27	Series 37	Series 55	Series 57	Series 87
Max Capacity	350 lbs.	750 lbs	1,000 lbs.	1,500 lbs.	8,000 lbs.
Wheel Diameters	4" - 8"	4" - 8"	4" - 8"	6" - 10"	4" - 12"
Top Plate	4" x 4.5"	4" x 5"	4" x 5"	6.25" x 4.50"	6" x 7.5"
Legs	1/4 x 1.5	1/4 x 1.5	1/4 x 2	1/4 x 2	3/8 x 4
Lead Length	Up to 2.25	Up to 2.50	Up to 3.25	Up to 3.50	Up to 3.00
Axle	1/2" Diameter	1/2" Diameter	1/2" Diameter	1/2" Diameter	1" Diameter





FAQ's

MAINTENANCE FREE | KINGPINLESS RIGS

What ergonomic benefits does the ErgoMaxx Rig offer?

The ergonomic benefit is lower energy exertion to:

1. Start rolling when wheels are not all parallel
2. Turn or Maneuver

Resulting in less risk of a overexertion injury. In addition, ErgoMaxx helps reduce the risk of injury due to repetitive strain. By reducing the energy exerted to perform a task such as maneuvering, which an operator may repeat several times a day, the rate of accumulation of strain is reduced greatly.

What does Maintenance Free mean?

Maintenance Free is in reference to the bearings used in the ErgoMaxx Rigs. We use a Precision Sealed Ball Bearing, that never needs greasing. The precision seal ensures that the grease does not dry or leak. Bearings that need maintenance would have to be greased about every 3 months. This is additional labor that must be performed, requiring someone to get down very low and pump grease into the caster swivel section.

What are the benefits of Maintenance Free?

Lower costs including labor and materials, as well as elimination of a labor task that can be challenging. If the casters must be greased, not only is the purchase of grease required, someone must get down to floor level and pump the grease in there. If maintenance is forgotten, the casters may become harder to maneuver and cause injury to operators or fail to rotate over time.

What makes the ErgoMaxx Rig precise?

ErgoMaxx Rigs are engineered and designed with tight fits, interlocking components and no variance. Rigs are built to exacting standards, with components that are integrated with tight tolerances, reducing the risk of play and flutter. In addition, we use only Precision Sealed Ball Bearings, which ensure smooth rotation and consistent performance throughout the life of the rig. These ball bearings have a L10 rating of 54,200 hours. That is equivalent to 6 years of continuous, non-stop use before a failure may be expected.





SoS SWIVEL ON SWIVEL

DUAL SWIVEL SECTION CASTER

ULTIMATE ERGONOMIC RIG

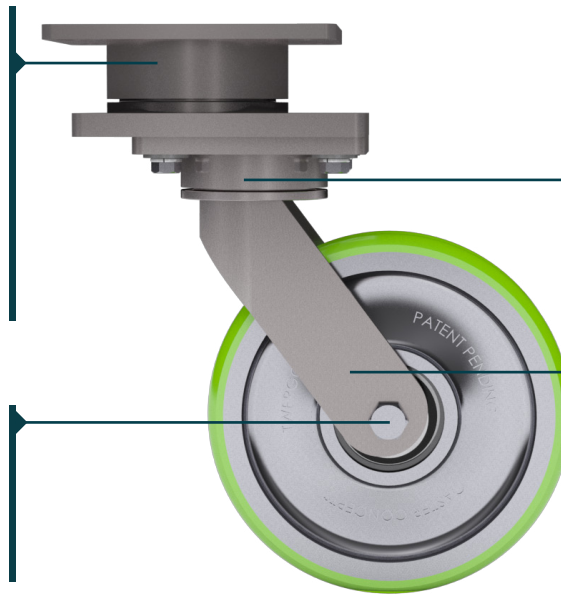
SIGNIFICANTLY REDUCES SIDE SHIFTING AND OPERATOR FATIGUE

Ergonomic

- Minimizes and potentially eliminates operator fatigue
- Reduces force required to start rolling when wheels are not parallel
- Significant reduction in side shifting of carts as they are being moved

Maintenance Free

- Kingpinless, never needs adjusting
- Ball bearing is lubricated, never needs greasing



Innovative Design

- Dual Kingpinless Swivel Sections, stacked together
- Sealed Precision Ball Bearings with Hardened Raceways and Neoprene Seals

Rotate 180 Degrees Without Shifting

- Essentially moves directly forward and backward in a straight line
- Get in and out of tight spaces easily

TOP PLATE

Top Plate Size	Bolt Hole Spacing	Bolt Diameter
Std: 4.50 x 6.25	2.438 X 4.938 Slotted to 3.375 x 5.25	0.5
OT 70: 5.0 X 7.25	3.375 X 5.25 Slotted to 4.125 x 6.125	0.5

OPTIONS

Brakes:

Cam:.....C
Poly Lock:.....P*
Face Contact:.....F
Toe Guard:.....TG

*For wheels with diameters \geq 6 inches

SPECIFICATIONS

Capacity: Maximum 1,500 lbs. per caster
Wheel Sizes: 6x2 8x2 10x2
Axle Size: 1/2" Diameter
Finish: Clear Zinc Plating
Legs: 1/4"x2" steel formed and welded continuously on inside and outside to yoke





FAQ's

SoS SWIVEL ON SWIVEL DUAL SWIVEL SECTION CASTER

What is meant by a Swivel on Swivel (Dual Swivel)?

A kingpinless, maintenance free swivel section rig is mounted on top of a larger, kingpinless, maintenance free rig. This innovative design achieves benefits no traditional caster can.

What are the benefits of a Dual Swivel Section caster?

- This caster achieves exceptional ergonomic benefits
- Significantly minimizes operator fatigue by reducing force exerted
- Virtually eliminates side shifting, moves forward and back in a straight line, requires minimal space to spin casters 180* (castering)
- Makes maneuvering much easier, reducing exertion and stress on operators

How does the Swivel on Swivel achieve such great ergonomic benefits?

- The swivel on swivel design reduces the turn radius needed to rotate the caster 180*, the swivel sections can rotate in opposite directions, requiring less space and force exerted, to maneuver
- Swivel lead is the longest we have achieved on any caster, reducing the amount of force needed to rotate when the wheels are not all parallel, and eliminating flutter on powered applications

Why is this called the "Ultimate" Ergonomic Caster?

The unique dual swivel section design achieves reductions in force exerted to start rolling when all wheels are not parallel and, turn and maneuver when rolling. The SoS caster averages about a 40% reduction in push force when compared to conventional king-pinless casters





MODERN SUSPENSION

W/ VARI-FLEX DESIGN

LOAD CAPACITY

Up To

6,500 LBS.

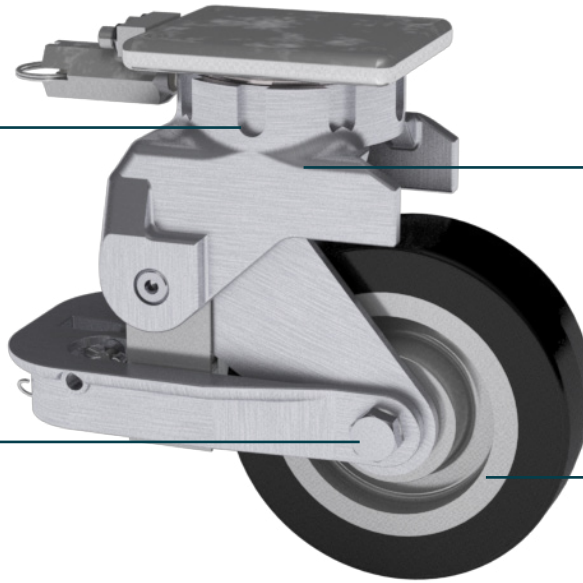
ALUMINUM SHOCK ABSORBING CASTERS

Vari-Flex Design

- Dramatically reduce vibration
- Safety factored in: shock absorption even with loads that exceed rated capacity
- Reduces shimmy, dynamic bounce and resonance, even on empty carts

Isolate Shock

- Significantly reduce vibration and noise
- Reduce Risk of damage to load



Aluminum Performs

- Aluminum yoke, legs and wheel core
- Corrosion resistant
- Resists water and most chemicals
- Light weight
- Aesthetically appealing

Independent Suspension

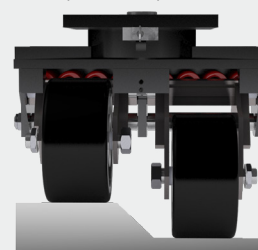
On Dual Wheel Series

- Keeps both wheels on the ground at all times
- Keeps cart and contents level
- Avoids excessive stress on one wheel
- Reduces risk of failure

Series	Capacity	Top Plate	Wheels
25	350lbs	3.75"L x 2.75"W x .25"H	Single
33	675lbs	4.5"L x 3.75"W x .50"H	Single
38	1,000lbs	6.75"L x 6.5"W x .50"H	Single
39	3,000lbs	6.75"L x 6.5"W x .50"H	Single
138	5,000lbs	11"L x 9"W x .625"H	Dual
339	6,500lbs	11"L x 9"W x .75"H	Dual

Modern Suspension Casters

Independent Suspension Axle



Solid Axle Casters



Suspended Wheel
No Floor Contact

Diagram is not to scale, and is intended for demonstration purposes only.





FAQ's

MODERN SUSPENSION CASTERS

WITH VARI-FLEX DESIGN

What is Vari-Flex?

Vari-Flex is Modern Suspension's unique shock absorbing caster design. Vari-Flex design achieves optimal shock reduction and drastically reduces shimmy, dynamic bounce and resonance, even when the cart is empty or loaded beyond its maximum rated capacity.

Can spring loaded casters actually cause more shock and vibration?

Yes absolutely, if the wrong spring is chosen for the application, the spring could actually do more harm than good. If the spring constant is too high, it could essentially be the same as not having a spring at all. If the spring constant is too low, it could extend the impact of the shock and continue to vibrate excessively. The right spring is critical to achieving optimal shock and vibration reduction and especially elimination.

What are the benefits of Aluminum?

- High resistance to corrosion
- Light weight, significantly lighter than other metals including Cast Iron and Steel
- Looks good, aesthetically appealing and ideal for applications where appearance matters
- Resistant to Water and many chemicals, ideal for higher humidity and other challenging environments
- Dissipates Heat
- Non Sparking
- Non Magnetic

Is aluminum sturdy enough for Industrial use?

Absolutely, while aluminum is not as hard a metal as steel or cast iron, it is strong enough to carry 6,500lbs per caster.

Why are they called Suspension Casters?

Modern's dual wheel casters have an INDEPENDENT SUSPENSION, Each wheel is on its own separate axle with separate forks (legs), its like having two separate casters on one top plate. This is extremely beneficial because it helps to keep both wheels on the ground and the cart or dolly level, even when the ground is not, or an obstruction is encountered. It also helps avoid excessive stress on just one wheel, reducing the risk of failure and potential injuries.





TREAD POLYMERS

CUSTOM FORMULATED

CUSTOMIZABLE BY REQUEST

- ENVIRONMENT
- THICKNESS
- HARDNESS
- COLOR

WHEEL TREAD POLYMERS FORMULATED FOR PERFORMANCE

Ergo Tread

Reduces Force Exertion

- Returns Energy
- Reduces Noise
- Shore 84A Hardness

HPPT Tread

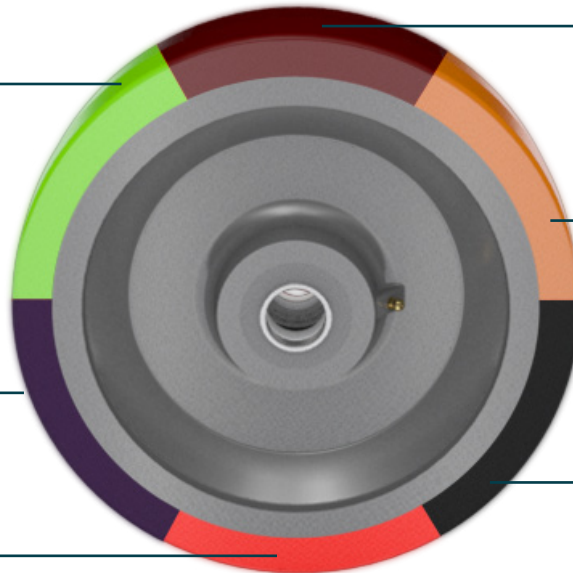
Slower Heat Buildup

- Ideal for Dynamic Apps
- High Weight Capacity
- Shore 92A Hardness

TR85 Tread

Durable, Soft, Quiet

- Tear Resistant
- High Elasticity
- Shore 85A Hardness



Standard Tread

Application Work Horse

- General Purpose
- Economical
- Shore 95A Hardness

TR95 Tread

High Strength

- Tear Resistant
- Moderate Elasticity
- Shore 95A Hardness

Dura Tread

Ideal for Heavy Loads

- Rigid and Durable
- Wear Resistant
- Shore 70D Hardness

High Density 1" Thickness Available on Dura Tread and Ultra85 Tread

POLYURETHANE FOR:

- Conveyor Rollers
- Drive Wheels
- Dunnage
- Caster Wheels

FORMULATED & APPLIED IN HOUSE

Caster Concepts mixes and applies polymers internally

- Popular formulations for common industry applications
- Custom formulations available for your unique challenges
- Polymers applied in our production process, not shipped out to third party, allows us to easily create the formula for your need
- Process MDI, TDI, TODI, and PTMEG





TREAD FORMULATIONS

WE MIX AND POUR OUR OWN WHEELS, PROCESSING **MDI**, **TDI**, **TODI** AND **PTMEG**. WE CAN CUSTOMIZE THE FORMULATION TO CONQUER YOUR SPECIFIC CHALLENGES. BELOW ARE OUR STANDARD FORMULATIONS DESIGNED TO PERFORM IN COMMON APPLICATIONS.

Dura Tread

Hardest, toughest tread we offer, ideal for heavy loads, non marking and wear resistant. This extra hard polyurethane has good water resistance, but is not solvent resistant. It has excellent dynamic performance and very good physical properties. Wheels treaded in hard polyurethane can carry a heavier load than wheels of the same size treaded in standard polyurethane. The harder material makes for an easier to roll, but “noisier” wheel. (Shore 70A Hardness)

Ergo Tread

Our ergonomic polyurethane formulation that returns energy resulting in reduced energy exerted. Ergo Tread helps reduce risk of injuries due to overexertion and accumulated strain due to repetitive activities. The unique formulation achieves a high resistance to debris, reduces noise and won't damage most flooring. (Shore 84A Hardness)

HPPT Tread

A High Performance polyurethane formulation that is ideal for dynamic applications. HPPT resists heat buildup, and can carry higher weight capacities, making it ideal for AGV's, Tuggers and other higher speed, higher weight applications. Has a higher resistance to tearing, permanent deformation and abrasions, than most tread materials. Resistant to many solvents, but has minimal water resistance. (Shore 92A Hardness)

T/R 95 Tread

While many polyurethanes offer a 95A shore hardness, our T/R 95 tread achieves a higher tear resistance and greater strength for extended wear in difficult applications. While maintaining a higher hardness, T/R 95 has greater elasticity resulting in ergonomic benefits and longer use life than standard 95A poly. This formulation achieves good solvent and oil resistance, but is not water resistant. T/R 95 is not recommended for hot and humid environments. It can be used in wet and dry food contact, but requires changes to the standard catalyst and colorant. (Shore 95A Hardness)

T/R 85 Tread

Designed to roll easily and quietly, the T/R 85 tread is ideal for applications that require the industrial strength, with a softer touch. This formulation is very resistant with high tear and debris resistance, and moderate solvent and oil resistance, but is not water resistant. Not ideal for applications in hot and humid areas due to microbial attack. (Shore 85A Hardness)

Standard Tread

Our general purpose material that is good for numerous mainstream applications. It is non-marking with high tear strength and resistance to flat spotting, as well as good solvent and water resistance. (Shore 95A Hardness)



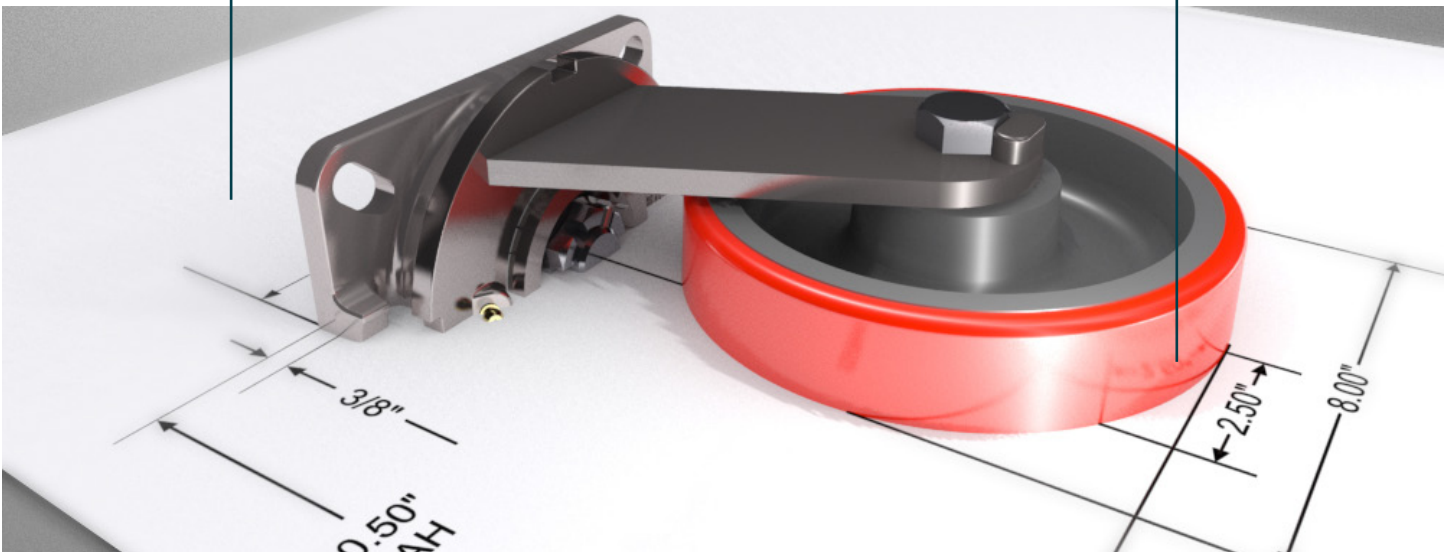


CASTER CONFIGURATOR

CONFIGURE THE EXACT CASTER FOR YOUR NEEDS

DESIGN A CASTER UTILIZING INFINITE NUMBER OF ATTRIBUTES

- Menu driven
- Easy to use
- Web based
- Compatible with all browsers
- Search by various common needs
- Downloadable 3D/2D Models available in over 150 CAD formats
- Thousands of standard models available



DESCRIPTION

Simply use the provided sliders and tabs to select the appropriate capacity, diameter, width and top plate specifications, and the advanced Configurator immediately generates a 3D CAD model of the exact caster for your requirements.

ATTRIBUTES

Our Configurator will also allow you to select and download any of our more than 20,000 standard caster models, so you can quickly and easily incorporate the 3D model in your design.

We invite you to try the Custom "Build Your Own" Caster Configurator today.

