

Precision Drive Components

MISSION

To be the preferred worldwide OEM supplier of precision belt drive systems for power transmission, motion control, and transfer drive applications

Fenner Drives, Precision Products Division's continued investment in personnel, capital expansion, and advanced materials delivers leading-edge polyurethane belting technology. We are dedicated to achieving our mission by providing you, our customers, with not only the best product, but also the best manufacturing process and customer support in the industry.

Capital investments, including an ISO 9001:2000 certified state-of-the-art manufacturing facility located in Manheim, Pennsylvania, provide Fenner Precision with the resources necessary to fully accommodate your needs. With sales and engineering offices in the US, Asia, and Europe, we will assist in the selection of the optimal profiles, materials and components to meet your application requirements. We can reduce your product introduction cycle by utilizing our modern laboratory and accelerated test facilities.

Why choose Fenner Precision?

- Complete drive design: belts, pulleys, rollers
- Advanced materials: elastomers and reinforcements
- Knowledgeable Product Development and Applications Engineers
- Fast prototype turnaround
- Competitive pricing
- Responsive customer service
- In-house tool design and construction
- Extensive test facilities
- Fast, on time deliveries worldwide
- High-quality manufacturing
- Truly endless belts





At Fenner Precision, we have the technology and experience to give you the competitive edge.

Our Company

... is widely recognized in world markets as the leading engineering resource in precision drive components and systems. With early involvement in your project, Fenner Precision becomes a natural extension of your design and procurement teams. We have qualified engineering and sales personnel based in the United States, United Kingdom, Singapore, China, and Taiwan.

Our Products

...include timing belts, multi-V belts, dual durometer belts, flat belts, pulleys, and rollers. Custom belts and pulleys are available in a variety of materials and profiles to meet the requirements of your specific application.

Our Quality

...is a key element contributing to our being the preferred supplier in our markets and is assured by our ISO 9001:2000 certification.

Our Customers

...are located throughout North America, Asia, Europe, South America, and Australia.

Our Markets

...include printers, copiers, scanners, instrumentation, medical equipment, currency handling, paper handling, household appliances, power tools, robotics, and packaging equipment.

Our Commitment

...is to meet or exceed our customer's expectations for quality, customer service, delivery, competitive pricing, and engineering assistance.

Fenner Precision's "Partner in Design" engineering approach allows our Product Development and Applications Engineering team to interface with your engineering and procurement teams early in your product development cycle. This approach allows for the best match of your design goals and performance objectives with our capabilities, materials, and drive components.

Fenner Precision can assist you from prototype to production. State-of-the-art mechanical, chemical, and quality assurance facilities allow us to provide data analysis critical to design and application performance.

PRECISION TIMING BELTS

Fenner Precision polyurethane timing belts supply non-slip synchronization for power transmission, motion control, and transfer applications. Our timing belts require no lubrication, run cleanly, and are dust-free. Top quality materials, knowledgeable engineering support, and a variety of manufacturing processes allow Fenner Precision to provide the right timing belt for your application.

Belt Construction

Elastomer — While providing abrasion resistance and precise molding tolerances, polyurethane also provides the ability to integrally mold special profiles, ribs, lugs, and other features with the belt.

Reinforcements — Standard Kevlar® construction provides high strength and high modulus. Polyester and fiberglass reinforcements are also available for applications with special requirements.

Kevlar® is a registered trademark of E. I. du Pont de Nemours and Co. or its affiliates.

Advantages of Precision Polyurethane Timing Belts:

- Unaffected by oil, ozone and most chemicals
- Precise belt tolerances
- Highly detailed profiles and features
- Achievable innovative designs
- High resistance to abrasion
- Long shelf life
- Integrally molded features – lugs, projections, etc.
- No dusting
- Truly endless – no seams or welds

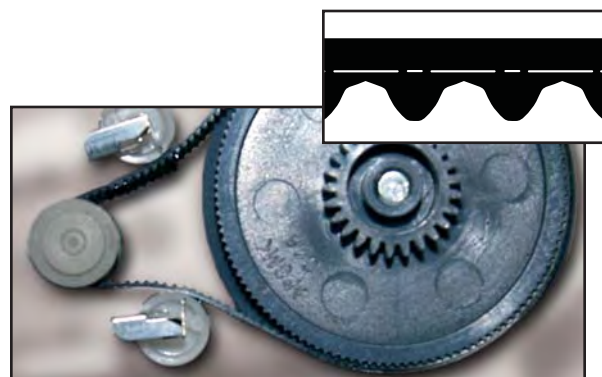




Fenner Precision offers a choice of curvilinear or trapezoidal tooth designs to meet your torque and backlash needs. Please contact one of our product Development and Applications Engineers to discuss your specific application.

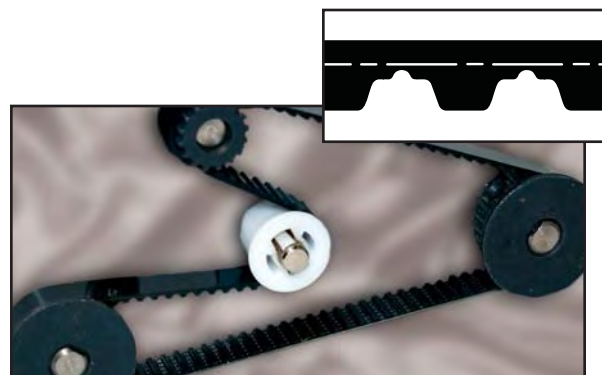
Curvilinear Tooth Timing Belt

Fenner High Torque (FHT) is the ultimate profile for applications requiring improved positioning, higher torque transmission, quieter operation, and longer belt life. FHT tooth profiles are available in 1, 2, 2.032, 3, and 5 mm pitches. Other pitches and custom features can be designed for your specific application.



Trapezoidal Tooth Timing Belt

Fenner Precision offers MXL, XL, and L pitches for use in medium-duty applications where positioning and torque carrying capacity are important. MXL is available in 40 and 60 degree tooth angles. Use MXL 40 for high torque applications and MXL 60 for applications where reduced noise and less vibration are desired.



Precision Timing Belt Applications:

- Printers, plotters, scanners, copiers
- Currency handling equipment
- Instrumentation
- Medical equipment
- Power tools
- Small appliances
- Vending/casino equipment
- Surveillance equipment
- Robotics
- Storage technology

FENATRAK®

MULTI-V BELTS

Fenatrak® multi-V belts are ideally suited for non-synchronous drives that may experience high-speed, high-torque, severe shock-loading, and/or stalling conditions. Multi-V belts are designed to transfer power from the driver pulley to the belt by the forces between contact surfaces. Polyurethane construction provides abrasion resistance and precise rib profiles.

Fenner Precision's shortened rib profile provides long life and increased flexibility making Fenatrak belts ideal for use in high-ratio drive applications with small drive pulleys. Our manufacturing process ensures high quality and precise molding tolerances that meet or exceed industry standard specifications. Each rib is designed to fit precisely into the pulley grooves delivering smooth, quiet power transmission.

Kevlar® provides excellent strength and high modulus. Depending on your need, Fenner Precision can provide polyester, fiberglass, and other aramids to suit your specific application.

Advantages of Fenatrak Multi-V Belts:

- Overload protection by slipping in a stall condition
- Quiet drive operation
- Reduced vibration
- Excellent chemical resistance
- Wide range of frictional properties available
- Space saving





Fenner Precision also provides the custom pulleys required to meet your power transmission or conveying needs. Fenatrak® multi-V and uni-trak pulleys are available in aluminum, steel, and plastic.

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Fenatrak® H and J

Fenner Precision offers standard H- and J-section multi-V belts for power transmission applications. H- and J-section belts are ideally suited for high-ratio drives where synchronization is not necessary. To ensure required friction and wear characteristics, Fenatrak H- and J-section belts are available in a variety of polyurethane elastomers.

Fenatrak SG® H

Fenner Precision has developed Fenatrak SG H as an alternative solution to the traditional multi-V H- and J-section belts. Fenatrak SG H offers the following advantages:

- Higher torque transmission than standard H-section belts
- A modified rib angle allows for quieter operation and increased torque transmission
- ActiveGroove™ technology gives greater flexibility and enables a superior fit between the pulley and belt
- Polyurethane provides improved wear and chemical resistance

The power carrying potential for a multi-V belt is dependent on selecting the correct profile, belt width (number of ribs), and belt tension. To determine the correct belt for your specific application, please contact one of our Product Development and Applications Engineers today.

Fenatrak Multi-V Belt Applications:

- Power tools and wood working equipment
- Lawn and garden equipment
- Food processors, slicers, and bread makers
- Blower drives
- Exercise equipment
- Live roll conveyors
- Small part and silicone wafer conveying
- Paper handling and currency conveying
- Card embossing
- Medical equipment
- Office equipment and copiers

PRECISION FLAT BELTS

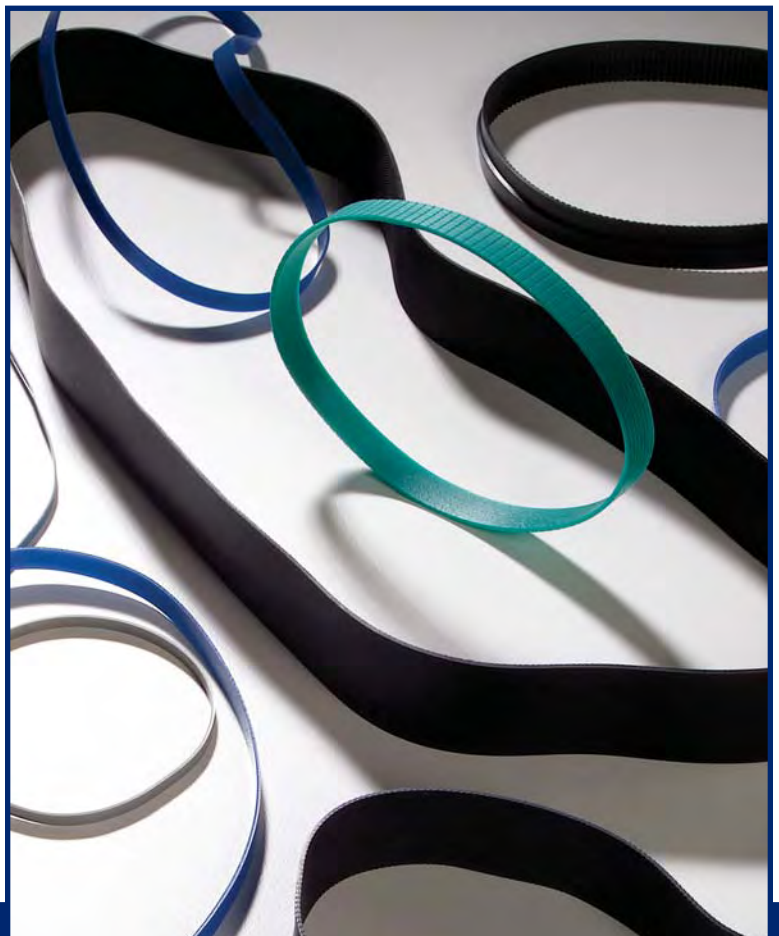
Fenner Precision offers a wide array of flat belts for conveying and light-duty power transmission applications. Precision flat belts are manufactured truly endless and outperform traditional spliced or welded flat belts.

Precision flat belts can be manufactured with woven or wound construction in either polyurethane or neoprene. Required stretch, semi-stretch, and non-stretch properties can be attained depending on the materials used. Precision flat belts are available with anti-static properties and can be manufactured in a variety of hardnesses and surface impressions.

For drying or vacuum applications, flat belts can be perforated with a variety of hole patterns. To perform highly specific functions, tracking guides and other features can be integrally molded with the belt.

Advantages of Precision Flat Belts:

- Truly endless
- Various stretch possibilities
- Anti-static properties
- Assorted hardnesses and surface impressions
- Can be perforated
- Integrally molded features – tracking guides and lugs
- Smooth, quiet operation
- Provide overload protection





Fenner Precision can provide custom molded flat belts using various elastomers and reinforcements. Contact our Product Development and Applications Engineering team today to discuss your application.

Stretch Belts

Stretch belts are non-reinforced and provide the necessary elasticity for use in light-duty applications where the distance between pulleys is fixed.

Semi-Stretch Belts

Semi-stretch belts are designed with a woven reinforcement with limited stretch for use in drives with no active-tension system. Final belt length is determined by considering mechanical component dimensions and reinforcement decay factors under load.

Non-Stretch Belts

Non-Stretch belts are used where length stability is critical to the design. A mechanical method of applying the correct belt tension must be incorporated into your design to compensate for tolerance stack-up.



Precision Flat Belt Applications:

- ATM machines
- Ticketing machines
- Bill validators
- Printers
- Copiers
- Mail handling equipment
- Card handling equipment
- Medical equipment

PRECISION CUSTOM BELTS

Fenner Precision's state-of-the-art manufacturing process allows for accommodation of custom belting requests. Many power transmission, motion control, and conveying applications require a custom feature, profile, or characteristic of the belt to assure proper drive operation. Molded polyurethane and a choice of manufacturing processes enable us to design and manufacture belts with integral features, dual durometers, and lugs that will not delaminate. In addition, we employ an engineering team ready to investigate unique design needs.

Dual Durometer Belts

For applications that require special frictional and hardness requirements on the inside and outside surface of the belt, Fenner Precision can manufacture non-marking, dual durometer polyurethane belts. The belt profile can include a timing, flat, or multi-V design.

Fenner Precision offers a variety of elastomers with a wide range of durometers.

Dual Durometer Advantages:

- No delamination
- Wide variety of hardness combinations available
- Varied frictional characteristics possible

Dual Durometer Applications:

- Packaging equipment
- Wire pulling machines
- Coin counting
- Mail handling equipment

Custom Feature Applications:

- Currency handling
- Card handling equipment
- Medical equipment
- Scanners and printers





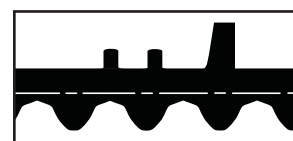
Fenner Precision can provide custom molded specialty belts using various elastomers and reinforcements. Contact our Product Development and Applications Engineering team today to discuss your application.

Custom Features, Profiles, and Processes

To perform specific operations such as conveying of sequentially spaced parts, trigger actuation, and component attachment, custom features and profiles can be integrally molded to any timing, multi-V, or flat belt. For drying, vacuum, or custom conveying, secondary processes are available.

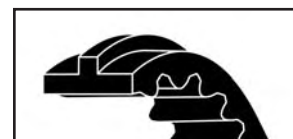
Lugs

Lugs, cleats, or custom design features can be integrally molded as part of the belt, enabling them to perform highly specific functions.



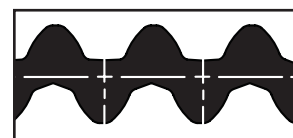
Tracking Guides

Polyurethane ribs (tracking guides) are an integrally molded feature of the belt that provides accurate tracking without the need for crowned or flanged pulleys.



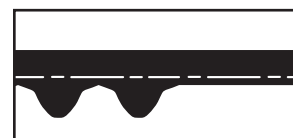
Double-Sided Timing Belts

Available in curvilinear and trapezoidal profiles, these belts are designed for applications requiring a serpentine system with synchronized idlers. Tough, wear resistant polyurethane allows for long-life on the working surfaces of the belt.



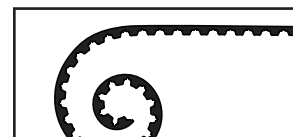
Half Tooth/Half Smooth

Custom designed for applications that reciprocate, without making a complete revolution, these belts are available in curvilinear and trapezoidal profiles. No secondary grinding needed, therefore clean and precise dimensions are easily provided.



Open-ended Timing Belts

Designed for use in rack & pinion drive designs, open-ended timing belts are available in all curvilinear and trapezoidal profiles. They allow freedom in drive design and can be used in drives that require longer belt lengths.



Hole Punching

For vacuum transfer of media or other applications, belts can be provided with punched holes or slots in a variety of configurations.



Grinding

Fenner Precision can grind belts to provide a self-cleaning surface to help eliminate the build up of paper dust in paper handling applications. Grinding can also provide a tighter belt thickness tolerance than molding alone.

PRECISION PULLEYS

The best match for your precision belt is a precision pulley from Fenner Precision. By allowing us to provide your pulleys we can assure complete compatibility of your drive along with the ease of one-stop shopping.

Fenner Precision can produce prototype and production pulleys for timing, multi-V, flat, and custom belt designs. Precision pulleys are available in a wide range of sizes in a variety of metals or plastics. Custom machining is available upon request including D-bores, counter bores, keyways, double pulleys, and special width pulleys. All Fenner Precision pulleys will meet or exceed industry standards. For prototype or production requirements we supply aluminum pulley bar stock in a variety of sizes and profiles.

Available styles include: pulley bar stock, single-flanged, double-flanged, and custom.

Advantages of Precision Pulleys:

- Chemical resistant
- Optional flanges
- Plastic or metal hubs
- Available setscrews & keyways
- Smooth, quiet operation
- Custom pitches and bore sizes available
- Matched profiles to belts
- Plastic insert- and over-molding available





From precision belts to precision pulleys, quick, one-stop shopping makes Fenner Precision the unparalleled choice for fulfilling your complete drive design requirements.

Available profiles include:

- Curvilinear Pitch
 - FHT-1
 - FHT-2
 - FHT-3
- Trapezoidal Pitch
 - MXL
 - XL
- Multi-V
- Flat
- Custom



Are you designing a new drive system? Our engineering team will help select the right pulley and material to match your drive design requirements. Please contact a Fenner Drives Product Development and Applications Engineer for further details.

Precision Pulley Applications:

- Printers, scanners, and copiers
- Packaging equipment
- Currency handling
- Exercise equipment
- Power tools
- Mail handling equipment
- Medical equipment
- Robotics
- Instrumentation

FRICTION PRODUCTS

Fenlon™ PTFE Bearing Linear Fabrics for Self-Lubricated Plain Bearings

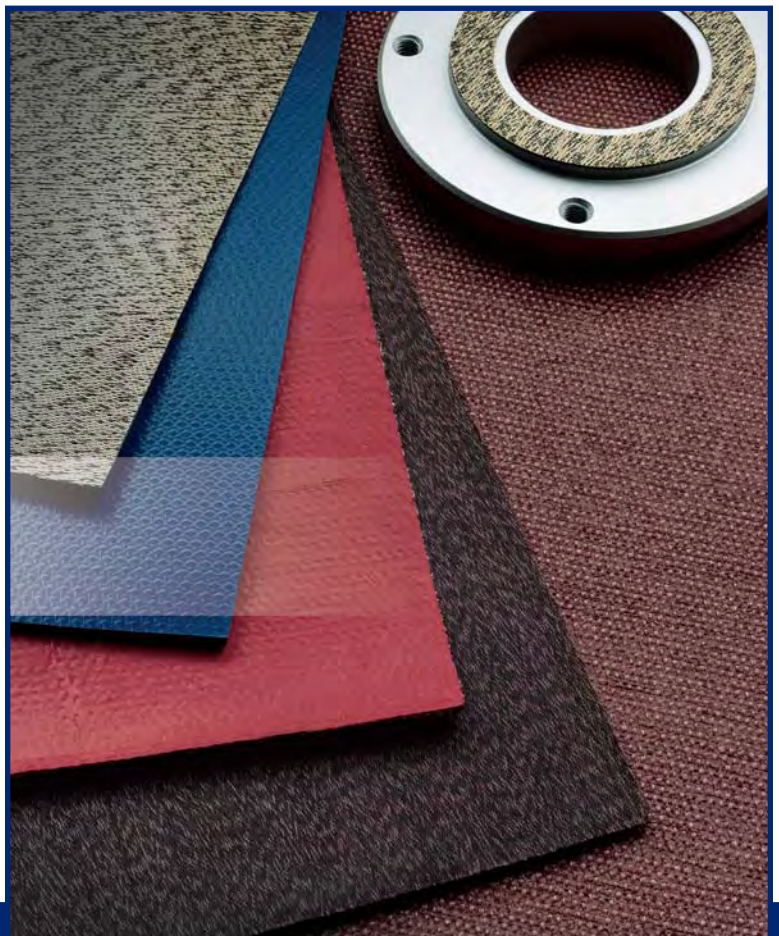
Fenlon high tech fabrics provide superior low friction properties for applications within the following industries: *Aerospace, Automotive, Construction, Industrial, and Sports/Recreation.*

Fenlon bearing fabrics consist of a low-friction, P.T.F.E. wear face that is self lubricating and a secondary fiber backing infused with phenolic resins for support. The resulting high-strength composite will withstand high loads and pressures without moving and becoming plastic.

Fenlon bearing fabrics are supplied in roll form or cut into individual sheets that are pre-compressed or laminated.

Available Nominal Thicknesses:

- .020" (0.51 mm)
- .033" (0.84 mm)
- .043" (1.09 mm)
- .050" (1.27 mm)
- .060" (1.52 mm)
- .070" (1.78 mm)
- .080" (2.03 mm)





Fenlon™ drag washer material is manufactured from a woven carbon fabric impregnated with solvent-based resins and is sold in sheet form.

Fenlon™ Drag Washer Material

Ideal for many applications including fishing reels, Fenner Precision Fenlon friction materials are manufactured from high-performance carbon fibers and phenolic resins. Designed to provide uniform friction with low stick slip against stainless steel, they are supplied in conveniently sized sheets in seven nominal thicknesses. Drag washers of varying shapes and sizes can be cut from these standard sheets.

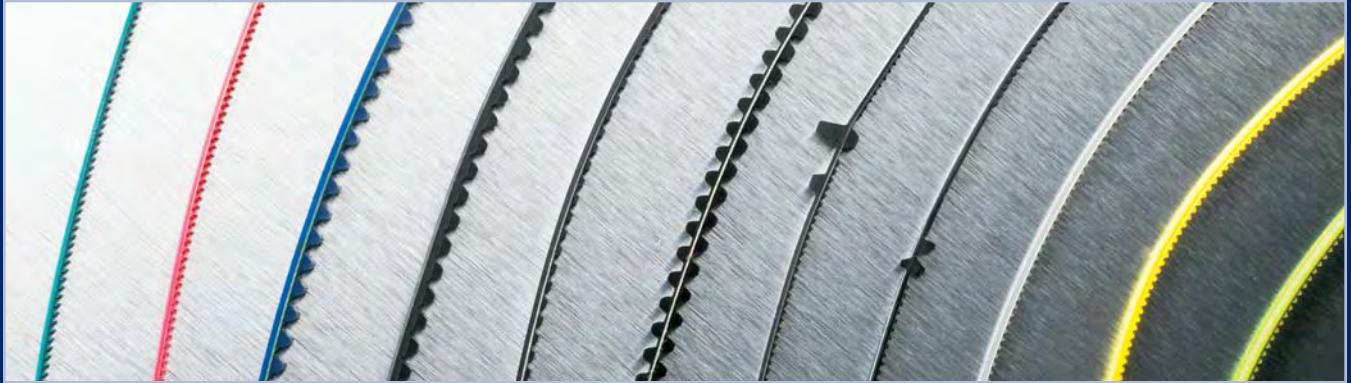
All materials contain fiber-rich surfaces, are made to the same high standards, and provide hard-wearing, long-lasting drag washers. All drag washers are double-sided, stackable, and can be bonded to substrates. Water will not degrade them, but as with all friction materials water acts as a lubricant and changes the friction characteristics.

Features of Fenlon™ Drag Washer Materials:

- Double-sided
- Fiber-rich surfaces
- Tight thickness tolerances
- Stackable
- Uniform friction with low stick slip
- Can be bonded to substrates
- Withstand frictional heat build up to 300°F
- Dimensionally stable
- Does not readily deform under pressure from spring tensioners
- Designed to run dry
- Performs well against stainless steel discs
- Resistant to degradation from water

Fenner Precision can manufacture custom materials for your friction application. Contact our Product Development and Applications Engineering team today to discuss your specific needs.

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