CONVEYOR PULLEYS

Drum Pulleys: FC / MC Series

FC and MC Series pulleys are manufactured from light to heavy wall tubing or pipe. FC Series pulleys feature PCI's unique Trapezoidal Crown package. PCI's proprietary crowning process provides the consistency, performance, and dependability of a Trapezoidal Crown profile in an economic gauge wall construction. FC and MC Series pulleys are available in multiple hub configurations, lagging styles and surface finish options.

Drum Pulleys: Heavy / Mine Duty

PCI® Heavy Duty and Mine Duty drum conveyor pulleys are designed to meet or exceed CEMA construction standards for belt conveyor applications where bulk goods are being conveyed. PCI Heavy & Mine Duty drum pulleys feature PCI's Contoured Integral End Disks, which maximize pulley life by reducing the risk of failure from end disk fatigue.
Selection of appropriate components plays a critical role in achieving ultimate success in conveyor design. Without the use of proper tools and training, this selection process can be cumbersome and time consuming for environments requiring stainless steel materials. To help simplify your selection process, PCI has developed four distinct classes of stainless steel conveyor pulleys that are designed to meet the requirements of a variety of applications. Our unique approach to stainless steel conveyor pulley design provides you with: stainless steel selection and solutions simplified.

- **SANITARY CLASS**
- **SUPER-CLEAN**
- **EASY-CLEAN**
- **EXTRA-VALUE**
## CONVEYOR PULLEYS

### Available Hub Styles

<table>
<thead>
<tr>
<th>Style</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>PLAIN BORE (WELDED SHAFT) (TYPE 1/TYPe A)</strong></td>
<td>End disks are bored to allow for a customer welded through shaft.</td>
</tr>
<tr>
<td><strong>WELDED THROUGH SHAFT (TYPE 1/TYPe A)</strong></td>
<td>A singular shaft extends through the entire pulley and is welded at both end disks.</td>
</tr>
<tr>
<td><strong>WELDED STUB SHAFT</strong></td>
<td>An assembly consisting of a short length of shaft and two disks is welded into each end of the pulley.</td>
</tr>
<tr>
<td><strong>KEYED HUBS &amp; SET SCREWS (TYPE 2/TYPe B/TYPe D)</strong></td>
<td>Removable shaft extends thru the pulley, is held in place with set screws and driven by a keyway.</td>
</tr>
<tr>
<td><strong>ER STYLE INTERNAL BEARINGS (TYPE 3/TYPe C)</strong></td>
<td>End disks are fitted with bearing units to allow rotation of the pulley around the shaft.</td>
</tr>
<tr>
<td><strong>WELDED COMPRESSION STYLE HUBS &amp; BUSHINGS</strong></td>
<td>A compression style hub is welded to the end disk and a through shaft is affixed by use of a tapered bushing. XT®, QD® and Taper-Lock® styles are readily available.</td>
</tr>
<tr>
<td><strong>KEYLESS LOCKING DEVICES (TYPE 5)</strong></td>
<td>Hubs are welded and machined to accept a mechanical shrink fit style hub and through shaft. Several manufacturers &amp; brands are available.</td>
</tr>
<tr>
<td><strong>CONTOURED INTEGRAL END DISKS &amp; BUSHINGS</strong></td>
<td>A compression hub is machined directly into a profiled end disk in place of a welded style hub.</td>
</tr>
<tr>
<td><strong>DEAD SHAFT ASSEMBLY</strong></td>
<td>End disks are fitted with piloted flange bearings and the shaft is held by fixed mounting blocks designed to easily replace external pillow block bearings.</td>
</tr>
</tbody>
</table>

*XT® is a trademark of Van Gorp Corp. QD® is a trademark of Emerson Electric Co... Taper-Lock® is a trademark of Reliance Electric*
Drum pulleys from 2” to 12” in diameter are available in FC Series construction. FC Series pulleys are manufactured from gauge wall or light duty tubing and feature PCI’s unique Trapezoidal Crown package. PCI’s proprietary crowning process provides the consistency, performance, and dependability of a Trapezoidal Crown profile in an economic gauge wall construction.

**DIAMETERS AVAILABLE**
- 2” through 12”

**WALL THICKNESSES**
- 11 gauge (.120”), 10 gauge (.134”), 3/16”

**END DISK THICKNESSES**
- 1/4” – 5/16” – 3/8”

**HUB STYLES AVAILABLE**
- Plain Bore or Welded Shaft (Type 1/Type A)
- Keyed Hubs (Type 2/ Type B / Type D)
- Internal Bearings (Type 3 / Type C)
- Welded Compression Hubs/Bushings (Type 4)
- Contoured Integral End Disks/Bushings
- Keyless Locking Devices (Type 5)
- Welded Stub Shaft
- Dead Shaft Assembly

Hub style availability will vary based on pulley construction.

PCI Trapezoidal Crown Technology
Drum pulleys from 2” to 12” in diameter are available in FC Series construction. FC Series pulleys are manufactured from gauge wall or light duty tubing and feature PCI’s unique Trapezoidal Crown package. PCI’s proprietary crowning process provides the consistency, performance, and dependability of a Trapezoidal Crown profile in an economic gauge wall construction.

**INCREASED BELT LIFE**: PCI Trapezoidal Crown pulleys lengthen conveyor belt life by minimizing center stretch commonly associated with single crown profiles. Because of its many performance-enhancing features, the “trap crown” profile is the preferred crown of many conveyor belt manufacturers.

**ENHANCED BELT TRACKING**: A conveyor belt will track towards the high point or largest diameter of a conveyor pulley. Trapezoidal crown pulleys are flat in the center and have tapers on each end providing an even, center located plateau for the conveyor belt to track around.

**IMPROVED RUNOUT**: PCI's proprietary crowning process provides improved runout characteristics over alternate methods of forming a crown in gauge wall tubing. Improved runout provides more consistent performance, reducing maintenance costs associated with belt tracking and belt replacement.

**PRODUCTION RUN CONSISTENCY**: PCI's proprietary crowning process also provides consistency between production runs. This means that by purchasing a PCI conveyor pulley, you will receive the same quality product with every purchase.

**ECONOMICAL CONSTRUCTION**: Most manufacturers can provide the advantages of a trapezoidal crown by machining it into the face of a heavy wall pulley. By forming the trapezoidal crown into the face of the pulley, our FC Series pulley eliminates the cost of machining and excess material, giving you maximum performance at an optimum value.
Drum pulleys from 2” to 12” in diameter are available in MC Series construction. MC Series drum pulleys are manufactured from medium or heavy wall tube or pipe and receive a machined crown when a crown is specified.

**Diameters Available**
2” through 12.75”

**Wall Thicknesses**
Multiple: 1/4” through 3/8”

**End Disk Thicknesses**
3/8” – 1/2”

**Hub Styles Available**
- Plain Bore or Welded Shaft (Type 1/Type A)
- Keyed Hubs (Type 2/Type B/Type D)
- Internal Bearings (Type 3/Type C)
- Welded Compression Hubs/Bushings (Type 4)
- Contoured Integral End Disks/Bushings
- Keyless Locking Devices (Type 5)
- Welded Stub Shaft
- Dead Shaft Assembly

*Hub style availability will vary based on pulley construction.*
PCI® Welded Stub Shaft pulleys are designed to maximize conveyor pulley life by reducing the risk of failure from shaft deflection by increasing fatigue safety factor and overall shaft capacity. PCI's design utilizes either a tandem of disks with shorter shafts or a solid shaft that is turned to specifications. Welded stub shaft designs are optimal for longer length pulleys of smaller diameters.

**Minimized Shaft Deflection:** The single largest contributor to premature failure of a conveyor pulley is end disk fatigue caused by excessive shaft deflection. Shaft deflection is the bending or flexing of a shaft caused by the sum of the loads on the pulley. Pulleys of longer length (typically greater than 72”) require special consideration of deflection because of their length. PCI stub shaft pulleys eliminate deflection by replacing a through shaft with two shorter shaft designs.

**Increased Shaft Capacity:** By eliminating shaft deflection as a source of failure, PCI stub shaft pulleys provide increased capacity for the pulley assembly. Depending on the specifications of the pulley, a PCI stub shaft pulley can provide up to 10 times the capacity of a comparable through shaft design.
PCI® Heavy Duty and Mine Duty drum conveyor pulleys are designed to meet or exceed CEMA construction standards for belt conveyor applications where bulk goods are being conveyed. PCI Heavy & Mine Duty drum pulleys feature PCI’s Contoured Integral End Disks, which maximize pulley life by reducing the risk of failure from end disk fatigue.

**DIAMETERS AVAILABLE**
14” through 60”

<table>
<thead>
<tr>
<th>THICKNESSES</th>
<th>WALL</th>
<th>END DISKS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Heavy Duty</td>
<td>1/4”(min)</td>
<td>1/4”(min)</td>
</tr>
<tr>
<td>Mine Duty</td>
<td>5/16”(min)</td>
<td>5/8”(min)</td>
</tr>
</tbody>
</table>

**HUB STYLES AVAILABLE**

*Plain Bore or Welded Shaft (Type 1/Type A)*
*Keyed Hubs (Type 2/Type B/Type D)*
Welded Compression Hubs/Bushings (Type 4)
Contoured Integral End Disks/Bushings
Keyless Locking Devices
Dead Shaft Assembly

*Available in Heavy Duty Only
PCI® Contoured Integral End Disks are designed to maximize conveyor pulley life by reducing the risk of failure from end disk fatigue. PCI’s design eliminates the need for a hub-to-disk weld by machining a hub directly into the surface of the end disk. In addition, PCI’s special contour optimizes the surface stress of the end disk by allowing for adequate flexibility not provided by flat disk designs.

**Machined Integral Hub:** The leading cause of premature pulley failure is end disk fatigue. End disk fatigue causes a pulley to fail at the weakest point on the end disk, the area near the weld between the hub and disk. The sudden change in geometry between the flat disk and the cylindrical hub produces an area of increased stress concentration. Additionally, welding also distorts the end disk causing hub bores to misalign from end to end. An integral style hub machined directly into the end disk eliminates the need for a weld between a hub and disk, thereby greatly reducing the risk of premature pulley failure.

**Contoured Profile:** Flat end disk designs discourage proper flexing of the end disk, thereby increasing the amount of stress induced in vulnerable areas. PCI’s contoured profile allows for adequate flexibility under load by increasing thickness where it benefits load accommodation and decreasing thickness where the disk should be allowed to flex.
With over a dozen unique wing pulley configurations ranging from 4” to 60” diameter, PCI has North America’s largest selection of true self-cleaning pulley solutions. PCI’s patented technologies are field-proven to maximize component life and increase performance in the most demanding applications.
The Eradicator wing pulley combines the best features of a traditional wing pulley with several unique performance enhancing characteristics to create the optimum self-cleaning solution.

The Tipless Eradicator wing pulley incorporates some of the performance enhancing characteristics of the Eradicator to create the optimum self-cleaning solution for small diameter applications.

The Eradicator D² (Directional Discharge) with Rim incorporates the innovative features of the Eradicator into a design allowing for operation in reversing conveyors handling smaller materials. The Eradicator D² also controls the flow of material discharge to one direction only.

The Eradicator D² (Directional Discharge) with Tips incorporates the innovative features of the Eradicator into a design allowing for operation in reversing conveyors of all material sizes. The Eradicator D² also controls the flow of material discharge to one direction only.
CONVEYOR PULLEYS
Self-Cleaning Wing Pulleys

THE DEFLECTOR™

The Deflector™ wing pulley increases the performance of a traditional wing pulley by adding our proven and patented ports with angled deflectors to continuously direct material to the outer edges of the pulley.

SPIRAL WING

Spiral wing pulleys incorporate a fixed spiral pattern around the circumference of a traditional wing pulley to achieve continuous contact with the conveyor belt for reduced vibration and noise.

TRADITIONAL WING

Traditional wing pulleys utilize a series of individual wings for the creation of open voids that are designed to allow loose material to fall away from the contact surface.

SMALL DIAMETER DESIGNS

Self.cleaning designs such as squirrel cage, beater bar, 7-shaped and solid core wing provide intermittent contact for a higher level of clean out over drum pulley designs in small diameter applications.

PRODUCT DASHBOARD

VIDEO COMING SOON

US Patent# 8,857,606
Additional Patents Pending
WHY IS CLEANOUT RATE IMPORTANT?
The faster a properly sized wing pulley cleans out loose materials, the longer it will last. It is that simple. Along with the pulley, recirculating materials can also influence the life of the conveyor belt, idlers and bearings. Self-cleaning pulleys with proven cleanout designs work to lengthen the life of your system components by quickly ejecting materials that damage and wear exposed surfaces.

DOES MATERIAL SIZE AFFECT WHICH PULLEY I SHOULD SELECT?
The size of the open voids in the construction of a self-cleaning wing pulley determine its degree of cleanout efficiency. Because of this, wing pulleys with smaller openings are best suited for eliminating smaller materials.

WHICH WING PULLEY OFFERS THE LOWEST VIBRATION AND NOISE?
The manner in which the wing pulley contacts the belt directly affects belt vibration and noise. While vibration can play an important role in knocking material off the belt, it can cause damage to system components and increase operational noise. Wing pulleys designed to achieve continuous contact with the conveyor belt work to minimize vibration and decrease noise.

DOES THE DIRECTION OF MY CONVEYOR LIMIT MY CHOICES BETWEEN WING PULLEYS?
The design of the wing pulley will influence its performance in applications where the conveyor belt runs in both directions. Reversing applications require a wing pulley designed to not only eliminate the unwanted material but assist in tracking the belt in both directions as well. Products such as the Eradicator $D^2$ excel in these environments.
The Eradicator® wing pulley combines the best features of a traditional wing pulley with several unique performance enhancing characteristics to create the optimum self-cleaning solution.

**DESIGN BENEFITS...**
- Accelerated Cleanout
- Increased Component Life
- Quieter Operation
- Enhanced Belt Tracking

<table>
<thead>
<tr>
<th>DIAMETERS AVAILABLE</th>
<th>6” through 48”</th>
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<tr>
<th>THICKNESSES</th>
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<tr>
<td>Standard Duty</td>
<td>7 gauge (.180”)</td>
<td>3/4” Round</td>
</tr>
<tr>
<td>Heavy Duty</td>
<td>1/4”</td>
<td>1” Round</td>
</tr>
<tr>
<td>Mine Duty</td>
<td>3/8”</td>
<td>1-1/4” Round</td>
</tr>
<tr>
<td>Tipless</td>
<td>3/8”</td>
<td>-</td>
</tr>
</tbody>
</table>

**HUB STYLES AVAILABLE**
- Welded Compression Hubs/Bushings (*Type 4*)
- Dead Shaft Assembly

“AR” ABRASION RESISTANT MATERIALS AVAILABLE UPON REQUEST

US Patent# 8,857,606 – Additional Patents Pending
ACCELERATED CLEANOUT
The Eradicator dominates material displacement by forcing particulate away from its center toward its open ends. PCI's exclusive design retains a traditional wing pulley's belt slapping capability to prevent material buildup while the cleanout ports maximize the material removal rate and minimize recirculation of material. These patented features power the Eradicator with a cleanout rate up to 40 times faster than a traditional wing pulley, creating the ultimate in self-cleaning solutions.

INCREASED LIFE
The hybrid design of The Eradicator maximizes both the life of the pulley and the conveyor belt. PCI's self-reinforced design discourages wing fold over and prevents incidental damage to the pulley. The Eradicator also maximizes belt life by reducing deformation commonly associated with high center point designs.

ENHANCED BELT TRACKING
The unique profile of the Eradicator encourages conveyor belt tracking by continually guiding the belt with its curved and angled wing members towards a reliable flat center point. This tracking benefit reduces the reliance on routine maintenance and the need for other belt training devices.

QUIETER OPERATION
The Eradicator decreases noise by continuously contacting the belt while its straight center maximizes cleanout. Only the Eradicator achieves the optimum balance of noise reduction and cleanout efficiency.
How is PCI’s Eradicator different from a traditional Wing Pulley?
The Eradicator wing pulley retains the belt cleaning benefits of a traditional wing while providing continuous belt contact and improved cleanout efficiency. These additional benefits provide longer component life and decreased noise. Traditional wing pulleys feature straight wings that contact the belt intermittently, entrapping and recirculating material rather than displacing it, often leading to belt damage and pulley failure.

What applications benefit from using the Eradicator Wing Pulley?
Applications where loose materials are causing damage to either the belt or conveyor pulleys would benefit from the use of The Eradicator. In addition to solving cleanout problems, PCI’s Eradicator decreases operating noise compared to traditional wing designs, making it ideal for applications where noise reduction is also desired.

How does The Eradicator Wing Pulley compare to other enhanced wing pulley designs?
Although other wing products may offer similar benefits, no other product offers the combination of benefits provided by the hybrid design of PCI’s Eradicator wing pulley. Spiral wing designs achieve continuous belt contact but underperform in material removal because of their straight wing members. Other enhanced wing products feature a center high point, eliminating the beater bar benefits of a traditional wing and may cause additional belt deformation with reduced belt tracking capability. The hybrid design of The Eradicator retains the belt cleaning benefits of a traditional wing while enhancing cleanout efficiency, offering unparalleled overall performance.

US Patent# 8,857,606
SMALL DIAMETER PERFORMANCE
The patented design of the Tipless Eradicator is available in almost any outside diameter and length combination including small diameters. Traditional small diameter designs incorporate straight wings that contact the belt intermittently, entrapping and recirculating material rather than displacing it, often leading to belt damage and pulley failure. The features of the Tipless Eradicator power it with a cleanout rate up to 20 times faster than a traditional wing pulley giving it unparalleled performance in applications with space limitations.

ENHANCED BELT CLEANING
The patented profile of the Eradicator provides the optimum balance of belt cleaning and cleanout performance. The flat at the center provides the highest level of belt beating of any angled wing product while the angled wing members actively work to discharge material out of the system. This unique combination makes the Tipless Eradicator the ultimate choice for installations in beater bar applications.
How is the Tipless Eradicator different from the original Eradicator?
The Tipless Eradicator features the industry leading, patented design of the original Eradicator but eliminates the use of round bar tips to enable configuration in extremely small diameters. The Tipless Eradicator features increased component thicknesses to maximize rigidity and longevity in a small package.

What applications benefit from using the Tipless Eradicator Wing Pulley?
Applications requiring a diameter of 6” or smaller where loose materials are causing damage would benefit from the use of The Eradicator. Because of its unique design and small diameter capabilities, the Tipless Eradicator is the optimum solution for any bulk handling application with diameter restrictions.

How does the Tipless Eradicator Wing Pulley compare to other small diameter wing designs?
Traditional small diameter wing pulleys have straight wings that entrap materials making them prone to failure due to weaknesses in their construction. The buildup of material in these designs, particularly with snub or beater bar applications, further encourages carryback through the system thereby contributing to premature wear on other components such as return rollers and bend pulleys. The Tipless Eradicator offers a solution to these common problems by beating the belt while effectively discharging unwanted material thereby reducing failure and increasing component life.

US Patent# 8,857,606
The Eradicator D² (Directional Discharge) with Diamond Rim incorporates the innovative features of the Eradicator into a design allowing for operation in reversing conveyors of material sizes 3" and smaller. The Eradicator D² also has the unique ability to control the flow of material discharge to one direction only.

**OPERATION IN BOTH DIRECTIONS - REVERSIBILITY**
The Eradicator D² provides an enhanced cleanout solution for applications where the conveyor belt operates in both directions. The patent pending design of the Eradicator D² has a cleanout rate up to 10 times faster than traditional wing pulley products.

**SINGLE DIRECTION DISCHARGE**
The unique design of the Eradicator D² forces material out of the pulley in one direction only allowing the user to control the placement of the ejected material. In reversing or dual-direction applications, the direction of cleanout will change based on the direction of the conveyor belt.

**MAXIMUM BELT CONTACT**
By utilizing a steel rim with diamond shaped passageways, the Eradicator D² - Rim achieves maximum continuous belt contact for increased traction and reduced noise. Because of the rim profile, this pulley is best suited for material sizes 3" and smaller.
OPERATION IN BOTH DIRECTIONS
The Eradicator D² (Directional Discharge) with Circumferential Tips incorporates the innovative features of the Eradicator into a design allowing for operation in reversing conveyors of all material sizes. The Eradicator D² also has the unique ability to control the flow of material discharge to one direction only.

SINGLE DIRECTION DISCHARGE
The unique design of the Eradicator D² forces material out of the pulley in one direction only allowing the user to control the placement of the ejected material. In reversing or dual-direction applications, the direction of cleanout will change based on the direction of the conveyor belt.

WATCH THE VIDEO

US Patent# 8,857,606
Additional Patents Pending

ALL OF THE BENEFITS OF THE ERADICATOR, PLUS...

OPERATION IN BOTH DIRECTIONS - REVERSIBILITY
The Eradicator D² provides an enhanced cleanout solution for applications where the conveyor belt operates in both directions. The patent pending design of the Eradicator D² has a cleanout rate up to 10 times faster than traditional wing pulley products.

“AR” ABRASION RESISTANT TIPS AVAILABLE UPON REQUEST
How is PCI’s Eradicator D² different from an Eradicator or traditional Wing Pulley?
The Eradicator D² utilizes the angled wing and cleanout port design of the Eradicator to maximize material removal but unlike the Eradicator, the D² is designed to operate in reversing/dual-direction applications. Additionally, the Eradicator D² forces the material in a single direction so that the ejection of material will take place on one side of the conveyor. The Eradicator D² is the first pulley of its kind to offer these innovative features.

What applications benefit from using the Eradicator D² Wing Pulley?
Reversing applications where loose materials are causing wear or damage to the conveyor belt or pulley would benefit from the Eradicator D² wing pulley. Additionally, by achieving continuous contact with the conveyor belt the Eradicator D² decreases noise and vibration to help eliminate related issues. Finally, by forcing the material in a single direction, the Eradicator D² provides an ideal solution for applications such as conveyor tunnels or tubular galleries, where accumulation of tramp materials on one side is causing increased maintenance costs or safety concerns.

How do I order an Eradicator D² Wing Pulley?
The Eradicator D² is designed with either Tips or Rim in a Right or a Left hand configuration. The Right or Left designation specifies the side of the conveyor in which the materials will be ejected. In a dual-direction/reversing conveyor, the side of ejection will change with the direction of the belt.

US Patent # 8,857,606
Additional Patents Pending
PCI® Traditional Wing Pulleys are designed for bulk handling applications where material removal is desired. Our construction standards allow for selection into a variety of applications ranging from light loads to extreme impact loading.

**DIAMETERS AVAILABLE**
6” through 52”

**HUB STYLES AVAILABLE**
*Plain Bore or Welded Shaft (Type 1/Type A)*
*Keyed Hubs (Type 2/Type B/Type D)*
Internal Bearings (Type 3/Type C)
Welded Compression Hubs/Bushings (Type 4)
Contoured Integral End Disks/Bushings
Keyless Locking Devices
Dead Shaft Assembly

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<td>Standard Duty</td>
<td>7 gauge (0.180”)</td>
<td>1/4”</td>
</tr>
<tr>
<td>Heavy Duty</td>
<td>7 gauge (0.180”)</td>
<td>3/8”</td>
</tr>
<tr>
<td>Mine Duty</td>
<td>3/8” (min)</td>
<td>5/8”</td>
</tr>
</tbody>
</table>

Hub style availability will vary based on pulley construction.
The Deflector™ wing pulley increases the performance of a traditional wing pulley with the addition of PCI’s proven and patented ports coupled with angled deflectors to continuously direct material to the outer edges of the pulley.

**ACCELERATED CLEANOUT**
The design of the Deflector™ wing pulley stems from the proven performance results of the Eradicator™’s angled wings and cleanout ports. The patent pending design of the Deflector maintains the straight wing members of a traditional wing but incorporates deflectors to fling material towards the edges. When installed with the deflectors angled towards the direction of belt travel, the Deflector minimizes recirculation of material and provides a cleanout rate up to 5 times faster than its traditional counterparts provide. Even when installed in the opposite direction, this innovative design has a cleanout rate 2 times faster than a traditional wing pulley.

**BELT CLEANING**
The straight wing members of the Deflector™ wing pulley allow for intermittent contact with the conveyor belt and provide belt slapping and vibration to help knock lodged materials off of the conveyor belt.
How is PCI’s Deflector™ Wing different from a traditional Wing Pulley?
Traditional wing pulleys feature straight wings that contact the belt intermittently, entrapping and recirculating material rather than displacing it, often leading to belt damage and pulley failure. The Deflector wing pulley utilizes the same straight wing members as a traditional wing pulley but drastically improves cleanout efficiency from its cleanout ports and patent pending deflectors. The accelerated cleanout produced by the deflectors and ports will provide longer component life for the pulley and the belt.

What applications benefit from using the Deflector Wing Pulley?
Because the Deflector wing pulley improves on the performance of a traditional wing pulley, any bulk material application where a traditional wing pulley is being used will benefit from the Deflector. However, if maximum cleanout efficiency is desired, no other conveyor pulley will perform as well as the Eradicator.

How do I order a Deflector Wing Pulley?
The Deflector will replace all PCI traditional wing pulleys 14” in diameter and larger when construction allows. When you order a traditional wing pulley from PCI in this size range, you'll receive the Deflector and its innovative design features.

US Patent# 8,857,606
Additional Patents Pending
CONVEYOR PULLEYS
Additional / Custom Designs

SPIRAL STYLE PULLEYS
A metal strip contact surface is fixed in a spiral pattern around the circumference of a drum or wing pulley to achieve continuous contact with the conveyor belt while enhancing material removal. Spiral style pulleys are primarily used on bulk handling systems where material buildup and continuous contact with the conveyor belt are operational concerns.

SQUIRREL CAGE
Squirrel cage pulleys are comprised of solid steel round bars welded to a series of disks which serve as the pulleys core. The open body construction provides for added clean-out over round bar or standard wing pulley designs.

“7” SHAPED FINS
7-Shaped wing pulleys feature steel wing members formed to a bent shape resembling the number seven. The profile of the wing member reduces belt wear while providing an economical construction for light duty applications.

CUSTOM WING TIP OPTIONS
Several styles of wing tips can be substituted for PCI standard flat bar tips. Options include round bar (shown here), thicker flat bar and AR-Abrasion Resistant materials.

BEATER BAR
Beater Bar designs feature a series of solid steel round bars welded to a tube or pipe core. The robust construction provides an increased safety factor in harsh environments.

SOLID CORE
Solid core pulleys offer self-cleaning benefits in the smallest of pulley diameters. Wing members can be designed using profiles including fins with flat tips, round bar or custom profiles.
PCI® Dead Shaft Assemblies are designed to maximize conveyor pulley life by eliminating the risk of failure from end disk fatigue while increasing the pulley’s overall capacity.

**Increased Shaft Capacity:** Mounting the bearings to the pulley allows the shaft to remain in a fixed position while in operation. Keeping the shaft in a fixed, non-rotating position eliminates the risk of bending fatigue associated with traditional live shaft assemblies. This design change increases the capacity of the pulley assembly.

**Eliminates Risk of End Disk Fatigue:** PCI Dead Shaft Assemblies utilize SKF® self-aligning spherical roller bearing units which absorb any bending that may occur in the shaft. This self-aligning feature eliminates the transfer of shaft bending into the end disks, eliminating the risk of end disk fatigue.

**Bolt-In Replacement for Pillow Block Mounted Units:** PCI welded steel Dead Shaft pedestals are available in two styles, designed as drop-in replacements for standard Medium Duty Ball Bearing, Spherical and Type E Pillow Block bearing units.
Manufactured to meet 3A, USDA and FDA requirements for cleanliness, PCI® Sanitary Class pulleys offer a premium surface finish and intelligent construction for application success in strict sanitary environments. All steel surfaces are manufactured to a finish of 32 micro-inches or better and are free of imperfections such as scratches, nicks or pits. Pulley construction is designed with flush end disks to deter buildup of harmful bacteria and axles are welded to prohibit access of contaminants to internal cavities. Extreme care is taken to avoid cross-contamination of stainless steel surfaces with ferrous metals during the entire manufacturing process. The design, construction and care taken while manufacturing a PCI Sanitary Class pulley make it the highest grade and most expensive of the PCI stainless steel conveyor pulley classes.

### DESIGN BENEFITS
- No Surface Imperfections
- Cross Contaminant Free
- Shaft Center Drills Removed
- All Surfaces are Machined
- Aesthetically Pleasing

### CONSTRUCTION
- 304 Stainless Steel

### SURFACE FINISHES
- STAINLESS STEEL: 32 Micro-Inches (or better)
- LAGGING: 64 Micro-Inches (or better)

### END PLATE LOCATION
- Flush with Pulley Ends

### HUB STYLES AVAILABLE
- Welded Shaft *(Type 1/Type A)*
Manufactured to provide maximum cleaning efficiency and general aesthetics to the application, PCI® Super-Clean Class pulleys are intended for conveyor applications requiring the benefits of a fully machined pulley where USDA or FDA sanitary compliance is not required. Super-Clean pulleys are designed with a 125 micro-inch or better surface finish on all surfaces including weld fillets to improve removal of debris. End plates are flush with the pulley ends to minimize buildup of debris. Although offering a high grade finish, surfaces of a Super-Clean pulley may include imperfections such as pits, scratches or small pockets. Super-Clean pulleys offer an economical alternative to achieve the benefits of a fully machined surfaces of a sanitary class pulley.

**CONSTRUCTION**
304 Stainless Steel

**ALL SURFACE FINISHES**
125 Micro-Inches (or better)

**END PLATE LOCATION**
Flush with Pulley Ends
(Keyed hubs may extend)

**HUB STYLES AVAILABLE**
- Welded Shaft (Type 1/Type A)
- Keyed Hubs (Type 2/Type B/Type D)
Manufactured to provide benefits in cleaning efficiency to the application, PCI® Easy-Clean class pulleys are intended for conveyor applications where direct food contact is not a primary concern. Easy-Clean pulleys offer a 250 micro-inch or better surface finish on all surfaces including weld fillets to allow for easy removal of material from pulley surfaces and end plates flush with the pulley ends to minimize buildup of debris. Because of their intended use, surfaces may include imperfections such as pits, scratches or small pockets but are media treated to provide a uniform visual appearance. Easy-Clean class pulleys offer an economical solution for applications desiring some level of cleaning efficiency.

CONSTRUCTION
304 Stainless Steel

ALL SURFACE FINISHES
250 Micro-Inches (or better)

END PLATE LOCATION
Flush with Pulley Ends
(Keyed Hubs and Bearing Races may extend)

HUB STYLES AVAILABLE
Welded Shaft (Type 1/Type A)
Keyed Hubs (Type 2/Type B/Type D)
Internal Bearings (Type 3/Type C)
CONVEYOR PULLEYS

Stainless Steel – Extra-Value Class

Designed to provide corrosion resistance and reduced magnetic properties to the intended application, PCI® Extra-Value Class pulleys are intended for conveyor applications where sanitary requirements are not a concern. Because of their intended use, this class of pulleys offers a minimum grade surface finish, welds in “as-welded” condition and end-plates recessed in the pulley ends. Pulleys in this class may have slight surface imperfections including pits, scratches and small pockets however, surfaces are media treated to provide a uniform visual appearance. Extra-Value class pulleys are available in all standard hub configurations and are the most economical of the PCI Stainless Steel conveyor pulley classes.

CONSTRUCTION

304 Stainless Steel

ALL SURFACE FINISHES

“As Fabricated”

END PLATE LOCATION

Recessed

HUB STYLES AVAILABLE

Plain Bore or Welded Shaft (Type 1/Type A)

Keyed Hubs (Type 2/Type B/Type D)

Internal Bearings (Type 3/Type C)

Welded Compression Hubs/Bushings (Type 4)
PCI’s dedication to creating a solution for every application drives our Class X product offering. The finish, construction and features of a Class X Pulley are custom designed every time to meet the individual needs of your unique application. If PCI hasn’t already designed your solution, ask for a Class X solution!

**CLASS “X” EXAMPLES INCLUDE:**

- De-Magnetization
- Food Grade Lagging
- Special Finishes (Knurling etc.)
- Wing Pulleys
- Super-Sanitary Designs
- Your Next Solution
Selection of appropriate components plays a critical role in achieving ultimate success in conveyor design. Without the use of proper tools and training, this selection process can be cumbersome and time consuming for environments requiring stainless steel materials. To help simplify your selection process, PCI has developed four distinct classes of stainless steel conveyor pulleys that are designed to meet the requirements of a variety of applications. Our unique approach to stainless steel conveyor pulley design provides you with: stainless steel selection and solutions simplified.

<table>
<thead>
<tr>
<th></th>
<th>SANITARY</th>
<th>SUPER-CLEAN</th>
<th>EASY-CLEAN</th>
<th>EXTRA-VALUE</th>
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<tr>
<td>SURFACE FINISH</td>
<td>32</td>
<td>125</td>
<td>250</td>
<td>“As Fabricated”</td>
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<tr>
<td>304 STAINLESS</td>
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<td>√</td>
<td>√</td>
<td>√</td>
</tr>
<tr>
<td>FLUSH END PLATES</td>
<td>√</td>
<td>√</td>
<td></td>
<td></td>
</tr>
<tr>
<td>FULLY MACHINED</td>
<td>√</td>
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<tr>
<td>MEDIA TREATED</td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>HUB STYLES AVAILABLE</td>
<td>Welded Shaft</td>
<td>Welded Shaft Keyed Hubs</td>
<td>Welded Shaft Keyed Hubs Internal Bearings</td>
<td>Welded Shaft (Plain Bore) Keyed Hubs Internal Bearings Compression Hubs</td>
</tr>
<tr>
<td>COST</td>
<td>$$$$</td>
<td>$$$</td>
<td>$$</td>
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ALUMINUM  
**A Lighter Approach to Corrosion Resistance**

PCI Aluminum conveyor pulleys offer a corrosion resistant alternative to stainless steel while providing a couple of unique advantages:

**LIGHTER WEIGHT:** The density of aluminum is nearly one-third the density of steel, giving it a distinct advantage in applications where the weight of pulley construction is a concern.

**LOWER COST:** The price of aluminum material is normally between the cost of carbon steel and stainless steel making it an economical alternative to stainless steel when carbon steel isn't providing the required level of corrosion resistance.

PCI Aluminum conveyor pulleys are available in a range of diameters, construction thicknesses, and a couple hub styles. Please call us for selection assistance.
**GENERAL**

**Does a pulley’s load capacity increase by increasing pulley material thicknesses?**
While component thicknesses do contribute to overall pulley capacity, shaft diameter plays the primary role in achieving a desired load capacity. In other words, selecting a pulley with thicker components (Mine Duty over Heavy Duty, MC Series over FC Series) won’t necessarily achieve a greater load capacity if the axle is not sized to accommodate the application loads.

**What is the longest length of conveyor pulley that PCI can offer?**
PCI can manufacture pulleys with face lengths greater than 14 feet. Pulleys of this length require special consideration to account for shaft deflection. Small diameter pulleys of increased face length commonly utilize fixed stub shafts in place of traditional through shaft designs. Fixed stub shafts decrease the likelihood of end disk fatigue as a result of shaft deflection. (For additional information, please see PCI Pulley Selection Guide)

**DRUM PULLEYS**

**What is the difference between an FC Series and an MC Series Pulley?**
The main difference between these products is the method used to crown the pulley face when a crown profile is specified. FC Series pulleys receive a crown that is formed into the face of the pulley while MCF Series pulleys utilize machining operations to accomplish the profile. Because MC Series pulleys require machining, they are typically constructed from thicker materials as well.

**Are all MC Series pulleys provided with a fully machined face?**
MC Series designates that when a crown is required, the crown is machined into the face of the pulley rather than formed into it. Flat face pulleys and non-crowned surfaces would not necessarily receive machining unless otherwise specified.

**Does my application require a Heavy Duty or a Mine Duty conveyor pulley?**
The difference between a Heavy Duty and a Mine Duty conveyor pulley is component thickness. The thicker the components used, the greater the series name (heavy, mine, etc.). Applications with impact loads require consideration of component thicknesses for purposes of strength. Applications with loose, bulk materials require consideration to account for abrasion resistance and the increased possibility of point loading between the pulley and belt.

**Do Contoured Integral End Disks provide a greater load capacity than welded hub styles?**
PCI Contoured Integral End Disks provide an even distribution of stress and reduce the risk of end disk fatigue near the hub. While this upgrade yields a higher safety factor for the drum pulley, if shaft size remains unchanged, the two drums achieve a similar load capacity.

**WING PULLEYS**

**What applications benefit from using a Wing Style conveyor pulley?**
Also known as self-cleaning pulleys, wing pulleys are primarily used on the tail end of bulk handling systems where loose materials have a tendency to reside on the underside of the conveyor belt, causing damage to one or both components. Wing pulleys incorporate a non-continuous contact surface comprised of individual wings or fins. This construction results in the creation of open voids that allow loose material to fall away from the contact surface. In applications where continuous contact is desired, a spiral style or Eradicator® Wing pulley can be utilized.

**How do I specify additional reinforcing agents such as gussets and reinforcing rings?**
While we welcome your custom designs, PCI has designed our Wing Pulleys with standard options for construction choices like gussets and reinforcing rings. PCI Heavy Duty Wing pulleys feature the use of gussets while PCI Mine Duty Wing pulleys feature gussets and reinforcing rings as a standard design detail.
**STAINLESS STEEL**

*What are the proper surface finishes for my stainless pulley application?*

The surface finish of a conveyor pulley can drastically impact its performance in application. The finish provided on the conveyor pulley's surfaces will impact the amount of work required to fully eradicate contaminants from its surfaces. Generally speaking, the smoother the surface finish, the easier it will be to remove material from the surface. Because of the variance in available finishes and the work required to achieve them, surface finish should be carefully selected to ensure you receive the correct product at the optimum price.

*What is the proper construction for my stainless pulley application?*

The means by which a conveyor pulley is constructed can play a pivotal role in achieving performance success in application. The construction of a stainless steel conveyor pulley should be carefully selected to ensure the desired level of maintenance and sanitary compliance is achieved. These factors are heavily influenced by the location of the end disks, the pulleys hub style and axle detail specifications.
### Pulley Quotation Worksheet

For selection assistance please consult "PCI PULLEY SELECTION GUIDE" or call PCI Customer Service at 989.358.6149.

<table>
<thead>
<tr>
<th>COMPANY NAME / BRANCH NUMBER</th>
<th>DATE</th>
</tr>
</thead>
<tbody>
<tr>
<td>COMPANY PHONE NUMBER</td>
<td>EMAIL ADDRESS</td>
</tr>
<tr>
<td>YOUR NAME</td>
<td>FAX NUMBER</td>
</tr>
</tbody>
</table>

**QUANTITY**

ACCESORIES REQUIRED:

- **NARROW / WIDE SLOT TAKE-UP FRAME**

**PART#**

- BEARING PART# ___________

- **BORE SIZE** ___________

---

**PULLEY POSITION**

- Drive [ ]
- Tail [ ]
- Snub [ ]
- Take-Up [ ]
- Bend [ ]

**PULLEY PROFILE**

- Flat Face [ ]
- Crowned Face [ ]
- V-Groove [ ]

**PULLEY TYPE**

- Drum [ ]
- Wing [ ]
- Eradicator® [ ]

**PULLEY CONFIGURATION**

- (choose one)

  **DRUM**
  - FC Series [ ]
  - MC Series [ ]
  - Heavy Duty [ ]
  - Mine Duty [ ]

  **WING**
  - Standard Duty [ ]
  - Heavy Duty [ ]
  - Mine Duty [ ]
  - Other [ ]

  **ERADICATOR®**
  - Standard Duty [ ]
  - Heavy Duty [ ]
  - Mine Duty [ ]

  **STAINLESS**
  - Sanitary [ ]
  - Super Clean [ ]
  - Easy Clean [ ]
  - Extra Value [ ]

**HUB TYPE**

- TYPE A: Plain Bore [ ] With Welded Shaft [ ]
- TYPE B: Keyed Hub with Set Screws [ ]
- TYPE C: “ER” Style Internal Bearings [ ] Dead Shaft [ ]

**CH&B**

- XT® [ ]
- QD® [ ]
- TAPERLOCK® [ ]
- XT® INTEGRAL ENDS [ ]

**Preferred Hub Size** ___________

KLD: Keyless Locking Devices [ ]

Brand Preference ___________

**LAGGING**

- Type: SBR [ ]
- CARBOXYLATED NITRILE [ ]
- EPDM [ ]
- NEOPRENE [ ]
- NITRILE [ ]
- URETHANE [ ]
- SWRT [ ]
- WELD-ON [ ]
- CERAMIC [ ]

Food Grade [ ]

Durometer ___________

Color Preference ___________

Grooving: HERRINGBONE [ ]

CHEVRON [ ]

DIAMOND [ ]

**KNURLING ON CONTACT SURFACE**

- Fine Knurling (25 Teeth per Inch) [ ]
- Medium Knurling (16 Teeth per Inch) [ ]
- Coarse Knurling (10 Teeth per Inch) [ ]
# Pulley Quotation Worksheet

For selection assistance please consult "PCI PULLEY SELECTION GUIDE" or call PCI Customer Service at 989.358.6149.

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<tr>
<td>YOUR NAME</td>
<td>FAX NUMBER</td>
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## General Details

<table>
<thead>
<tr>
<th>Pulley Position</th>
<th>Quantity</th>
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<tbody>
<tr>
<td>DRIVE</td>
<td>TAIL</td>
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<table>
<thead>
<tr>
<th>Pulley Configuration</th>
<th>DRUM</th>
<th>WING</th>
<th>ERADICATOR®</th>
<th>STAINLESS STEEL</th>
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<tbody>
<tr>
<td>FC SERIES</td>
<td>STANDARD DUTY</td>
<td>STANDARD DUTY</td>
<td>SANITARY</td>
<td>EASY CLEAN</td>
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<tr>
<td>MC SERIES</td>
<td>HEAVY DUTY</td>
<td>HEAVY DUTY</td>
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<td>HEAVY DUTY</td>
<td>MINE DUTY</td>
<td>MINE DUTY</td>
<td>CLASS &quot;X&quot;</td>
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<tr>
<td>MINE DUTY</td>
<td>OTHER</td>
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<table>
<thead>
<tr>
<th>Pulley Configuration</th>
<th>DRUM</th>
<th>WING</th>
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<tr>
<td>FC SERIES</td>
<td>STANDARD DUTY</td>
<td>STANDARD DUTY</td>
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<td>MC SERIES</td>
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## Pulley Details

<table>
<thead>
<tr>
<th>Pulley Profile</th>
<th>FLAT FACE</th>
<th>CROWNED</th>
<th>V-GROOVE: _____ SECTION or SPECIAL _____ x _____ x _____</th>
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<table>
<thead>
<tr>
<th>Pulley Core Diameter</th>
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<table>
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<tr>
<th>Pulley Wall Thickness</th>
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<table>
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<tr>
<th>Face Width</th>
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<tr>
<th>Pulley Profile</th>
<th>FLAT FACE</th>
<th>CROWNED</th>
<th>V-GROOVE: _____ SECTION or SPECIAL _____ x _____ x _____</th>
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<table>
<thead>
<tr>
<th>Hub Type</th>
<th>TYPE A</th>
<th>TYPE B</th>
<th>TYPE C</th>
<th>COMPRESSION HUBS &amp; BUSHINGS</th>
<th>KEYLESS LOCKING DEVICES</th>
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</thead>
<tbody>
<tr>
<td>PLAIN BORE</td>
<td>KEYED HUBS (WITH SET SCREWS)</td>
<td>ER STYLE</td>
<td>XT®</td>
<td>XT® INTERGRAL ENDS</td>
<td>STYLE __________</td>
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<tr>
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<td>DEAD SHAFT</td>
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<td>QD®</td>
<td>TAPERLOCK®</td>
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<tr>
<td>Hub Type</td>
<td>TYPE A</td>
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<td>TAPERLOCK®</td>
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<table>
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<tr>
<th>Bore/Shaft Size</th>
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## Lagging Details

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<tr>
<th>Lagging Thickness</th>
<th>SBR</th>
<th>CARBOX NITRILE</th>
<th>EPDM</th>
<th>NEOPRENE</th>
<th>NITRILE</th>
<th>URETHANE</th>
<th>SWRT</th>
<th>WELD-ON</th>
<th>CERAMIC</th>
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<table>
<thead>
<tr>
<th>Lagging Type</th>
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<th>NO</th>
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<table>
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<tr>
<th>Lagging Color Pref</th>
<th>FINE KNUURLING (25 TEETH per INCH)</th>
<th>MEDIUM KNUURLING (16 TEETH per INCH)</th>
<th>COARSE KNUURLING (10 TEETH per INCH)</th>
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## Shaft Details

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<tr>
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<th>Overall Length of Shaft Diameter through Pulley</th>
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<tbody>
<tr>
<td>Shaft Diameter through Hubs</td>
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</tr>
<tr>
<td>Shaft Diameter through Bearings</td>
<td>Overall Length of Shaft Diameter through Bearings</td>
</tr>
<tr>
<td>Shaft Diameter through Drive</td>
<td>Drive Keyway Length</td>
</tr>
<tr>
<td>Overall Length of Shaft</td>
<td>Bearing Centers</td>
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<tr>
<td>Extension Length (Drive End)</td>
<td>Extension Length (Non-Drive)</td>
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<tr>
<th>Other Shaft Details/Description</th>
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## Additional Information

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<th>Take-Up Frames</th>
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<table>
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<tr>
<th>Dead Shaft Pedestals</th>
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