

Conveyor Pulleys - Engineering & Dimensions





Precision Pulley and Idler (PPI) was founded in 1977 with the goals of providing high-performance conveyor components and competitive pricing combined with unparalleled customer service.

These goals have not changed over the years, but in fact, have been enhanced. Every PPI employee is involved in the process of putting you, the customer, first. We listen to understand your needs and know that by responding quickly, we help improve your business profitability and potential. New product ideas and product changes are direct results of customer input.

The PPI staff of Production, Engineering, Quality Assurance, Customer Service, and Regional Sales People are dedicated to meeting your requirements for quality conveyor components.

We appreciate your business and support. You have our commitment that our goals for product performance, competitiveness, and service will continue as we respond to your requests for the finest conveyor components in the marketplace.

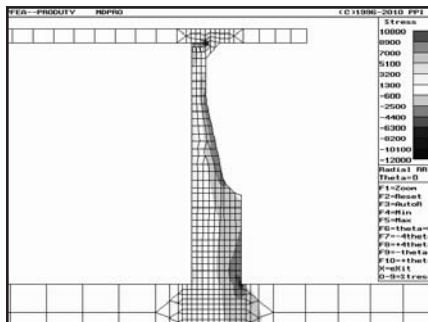
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MINE DUTY PRO®, PRODUTY®, Fas-Lag®, CraftLag®, PPI®, SSP®, LXT® are registered trademark of Precision Inc.

Quality Statement:

Quality efforts at PPI are focused on the customer. PPI employees strive to provide quality products and service that meet or exceed the customer's needs. To attain this goal, PPI employees obtain valuable experience and training in a variety of work assignments. In addition, each PPI employee receives countless hours of instruction in teamwork and problem-solving tools. Statistical Process Control (SPC) is used by teams of employees throughout the company. Our Quality Assurance and Engineering Service groups provide clear and consistent specifications to our production personnel. Whether an employee's role is communicating the customer's need or producing the customer's product, each employee shares the responsibility for continuous quality improvement.

Customers who look for value first choose PPI products. This value includes an appropriate design as well as quality workmanship. Because our products are competitively



Computer generated Finite Element Analysis allows our engineers to predetermine stresses from diagrams such as the one shown above.

Failure Mode	Life Cycles	Life Years	Life Damage Coeff.
disc surface	9.9e+9	99.9	.56
seam weld outside	9.9e+9	99.9	.47
seam weld inside	9.9e+9	99.9	.50
disc to rim weld	5.3e+9	53.3	.41



PFEA™ is just half of what happens at PPI. By combining the PFEA™ output with our IP Life program, we can determine the proper design levels AND the approximate service life of the product.

priced and our delivery record is the best in the industry, customers can depend on PPI. Rather than being content with accomplishments, PPI continues to strive to combine the strong work ethic and attitude needed to competitively produce the highest quality products.

*OUR Goal
is to provide
High-Performance
Components and
Competitive Pricing
Combined with
Unparalleled
Customer Service*



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Pro Series Drum Pulleys

Drum Conveyor Pulleys are constructed with a standard crown face unless otherwise specified and are not designed for use with steel cable or high modulus belts!



Pro Duty® Cut-a-way

CEMA Pro™ Drum Pulley

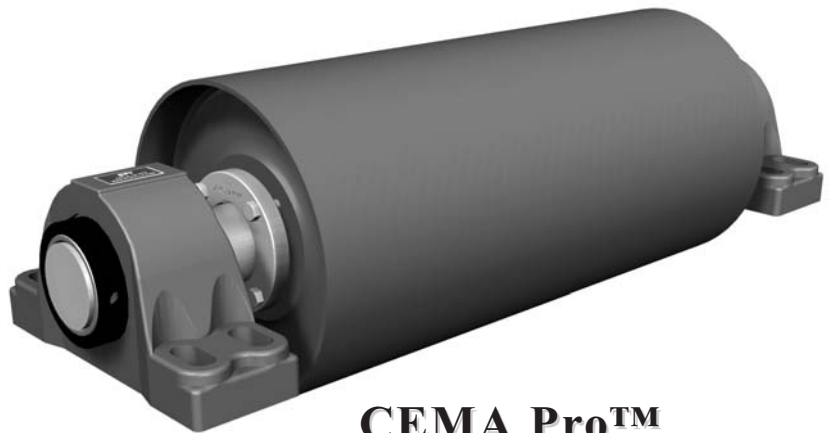
This is our entry level Pro Series pulley, designed according to ANSI B105.1 load and dimensional standards. It may be the entry level Pro Series pulley, but it's loaded with premium features not found in most other top of the line pulleys. Features such as our Pro Duty® profiled end discs with integral hubs and multiple pass continuous submerged arc welds to insure a smooth trouble free pulley.

Note: All pulleys with Pro Duty® end discs are painted green.

Pro Series Drum Pulleys

The Pro Series of drum pulleys represents a revolutionary change in the conveyor pulley industry. Our Pro Series pulley line has 4 different pulley classes that cover from the entry level CEMA Pro™, built to meet CEMA B105.1 requirements, all the way to our top of the line ULTRA PRO® design that can handle some of the most demanding fabric belt applications anywhere.

Pro Series drum pulleys all use profiled end disc technology that is most commonly used in Turbine pulley designs. The profiled end discs are machined from a solid piece of steel with an integral hub rather than using a welded hub, as conventional construction uses. *The welded in hub is the weakest link in the conventional pulley and is responsible for approximately 90% of pulley failures. The Pro Series pulleys completely eliminate this mode of failure. In addition, a tapered profile is machined into the Pro Series end disc to give it flexibility. This flexibility absorbs shocks and overloads to reduce the load that is transferred into the bushing by up to 50%, for even greater reliability. Pro Series Drums are only available with XT® bushings or keyless locking assemblies.*



CEMA Pro™ with Shaft and PPI Type E Spherical Bearings

Pro Duty® Drum Pulley

The Pro Duty is the next step in our Pro Series Drum line. It takes the outstanding features of the CEMA Pro and incorporates thicker steel materials to achieve a safety rating that is 1.5 times the CEMA standard.



Mine Duty Pro® with ½” Herringbone Lagging

Ultra Pro® Drum Pulley

The Ultra Pro was developed to be the ultimate non-engineered drum pulley available. With its ultra heavy rim and computer designed Pro Discs, it shrugs off loads that put other pulleys in the bone yard. In fact, it's built so well that internal center discs are not required for additional support, which eliminates one more potential failure point. *The Ultra Pro is intended for higher tension applications, so it comes in a flat face design. Machined crown is available for an additional charge.*



Mine Duty Pro® Drum Pulley

The PPI Mine Duty name has earned a reputation as a robust pulley capable of enduring severe conditions. With the addition of PPI Pro Discs the Mine Duty Pro takes reliability to a new level. It delivers a safety factor in the range of 2.5 times CEMA standards, which makes it a great choice for critical applications or where pulley change out is difficult.

Pro Series Drum with keyless locking assemblies and ½” Herringbone Lagging

PPI is the largest pulley producer in North America. We have an unmatched engineering department with tools such as Finite Element Analysis software that was created by PPI specifically to analyze pulley stresses.

For operation & maintenance manuals, check out our website at <http://www.ppipella.com>, just click on Operation Manuals.

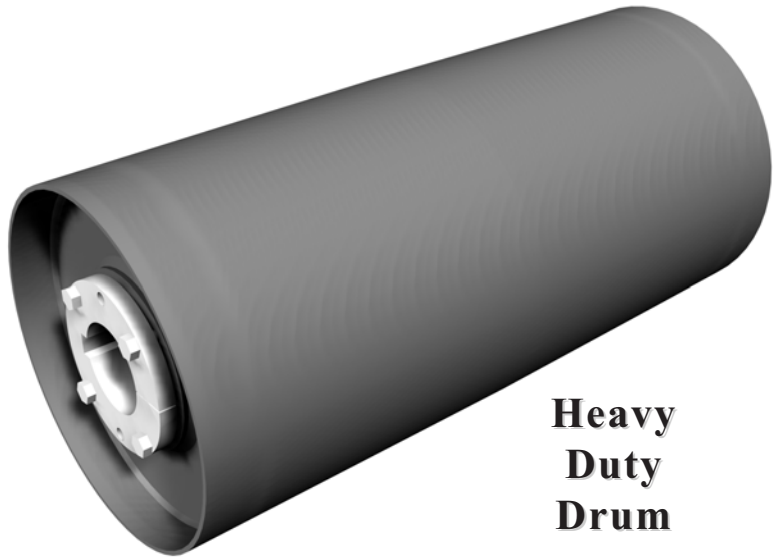
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DRUM Conveyor Pulleys

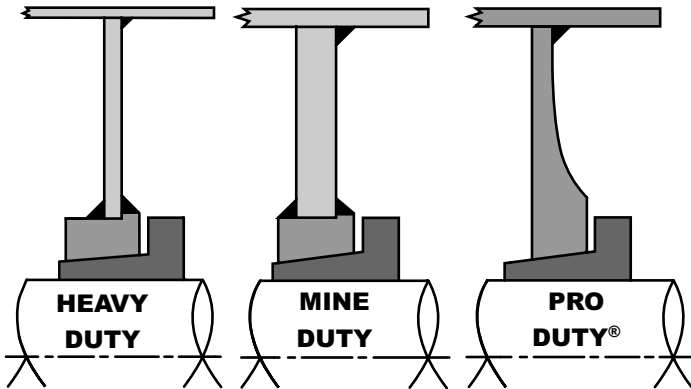
“HDD” HEAVY DUTY DRUM PULLEY

Completely redesigned using PFEA in combination with our IP life program. Steel rims, hubs, and discs are fused into an integral component by a continuous submerged arc welded bond that maximizes pulley strength, balance, and concentricity. Available with various hub and bushing systems.

- *Drum Conveyor Pulleys are constructed with a standard crown face unless otherwise specified and are not designed for use with steel cable or high modulus belts!*



**Heavy
Duty
Drum**



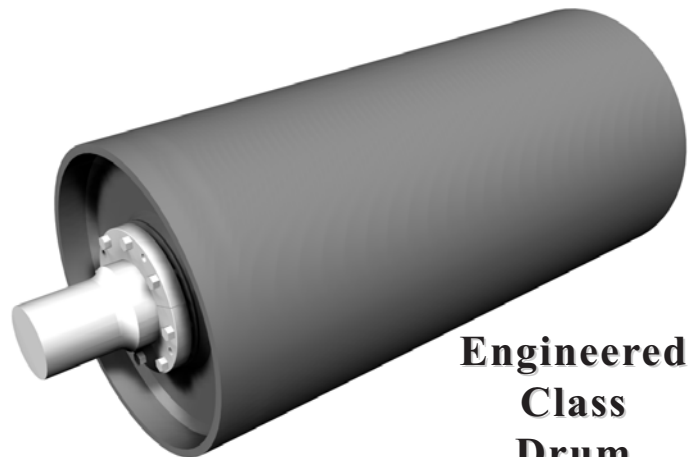
“MDD” MINE DUTY DRUM PULLEY

PPI Mine Duty Drum Pulleys were originally designed for the rugged environment of underground coal mining. Completely redesigned using PFEA in combination with our IP life program. Their ultra heavy duty rigid construction has been proven in the toughest conveyor applications. The “good as the shaft” design of PPI Mine Duty Drum Pulleys makes them particularly useful for spares or replacement

pulleys in critical positions. Available with various hub and bushing systems.

ENGINEERED CLASS DRUM PULLEY

Bulk handling systems are moving to larger conveyors and increased capacities. The high modules, high tension belts require pulleys of much higher capacity and durability than standard units. PPI has the experience, know how, and equipment to custom design (using our PFEA in combination with our IP-Life model) and fabricate pulleys for each pulley location and application. PPI Engineered Class Pulleys are supplied with various hub and bushing systems.



**Engineered
Class
Drum**

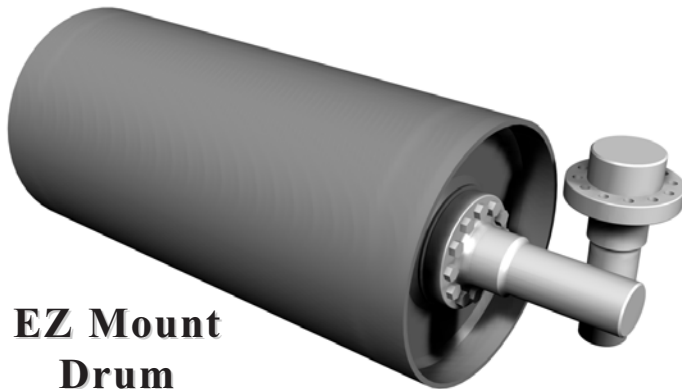
(For more information on Engineered Class pulleys, see PPI’s High Tension Pulley Flyer.)

SPIRAL DRUM PULLEY

The PPI Spiral Drum Pulley is formed by a pair of vertical steel bars helically wound around a PPI “HDD” Heavy Duty Drum Pulley. This unique design reduces buildup between the belt and the pulley while providing continuous belt contact for applications where wing pulleys cannot be used. Rotation of the pulley automatically starts the cleaning action, discharging foreign material to the side of the conveyor. Available in crown or straight face and also with various hub and bushing systems.



**Spiral
Drum**



**EZ Mount
Drum**

EZ MOUNT PULLEY SYSTEM

This unique pulley and shaft arrangement allows for fast, safe, and economical bearing and shaft replacement without removing the pulley from the conveyor. It reduces maintenance time, downtime, and scrap loss by using rugged engineered stub shafts. The pulley and shaft system is manufactured to CEMA standards and Mine Duty specifications.

TURBINE PULLEY

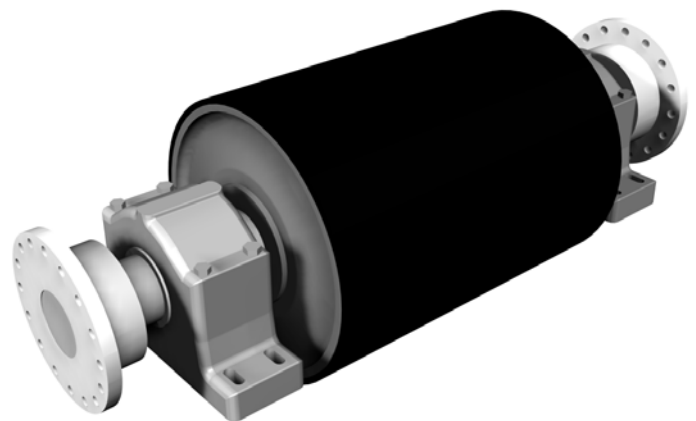
For the ultimate in pulley life, nothing surpasses the Turbine-T, designed with PFEA and IP-Life! Many think of a pulley as an assembly of parts, but to PPI it is a dynamic system. One cannot isolate the design of any one part, as any change in a part will change the loading on the rest of the pulley. These parts interact dynamically as they rotate. In order to design the assembly correctly, one must look at the complete pulley, and how the parts interact.

For more information on Turbine Pulleys see the High Tension Pulley Brochure.

PPI can provide pulley lagging, shafting, bearings, and take-up frames to complete the pulley package (And other conveyor components, such as Idlers, Impact Systems, Smart Roll, and EZ-Slider).

Notes: PPI's standard paint is grey. Mine Duty pulleys are painted yellow. All pulleys with ProDuty® end discs are painted green.

For operation & maintenance manuals, check out our website at <http://www.ppipella.com>, just click on Operation Manuals.



**Turbine-T with PPI SAF Bearings
& Customer Supplied Couplings**

LAGGING for Drum Conveyor Pulleys

PPI has complete in-house pulley lagging capabilities. Every step of the pulley manufacturing and lagging process is controlled internally, which assures quality, prompt delivery, and competitive pricing of lagged pulleys. Available in a wide variety of styles and thicknesses, lagging is primarily used to improve traction capacity, resist abrasive conditions, and extend pulley and belt life. The style of lagging required is usually influenced by operating conditions. While the standard is 60 durometer, it is available in various durometers, with 45 and 70 being the common alternates. SBR is standard; Neoprene and MSHA are available as well as a wide variety of other compounds.



HERRINGBONE GROOVE LAGGING (HBG) - The style of lagging required is usually influenced by operating conditions. In this Tractor style grooving, the points do not meet in the middle. This is normally used in drive pulleys. (3/8" minimum thickness)



CHEVRON GROOVE LAGGING (CHE) - Some prefer having the points meet, as done in Chevron. This is also used primarily on drive pulleys. (3/8" minimum thickness)



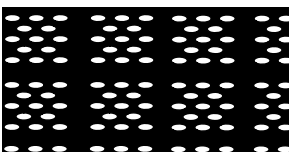
DIAMOND GROOVE LAGGING (DIA) - Diamond, or double HBG is primarily, used for reversing conveyor drive pulleys. It is also often used for spare pulleys when one doesn't know the direction of rotation. (3/8" minimum thickness)



CIRCUMFERENTIAL GROOVE LAGGING (CIR) - This is used on non-drive pulleys for really wet applications OR for cold temperatures. It allows the lagging to deflect and keeps material from building up on the lagging. (3/8" minimum thickness)



LORIG® ALIGNER GROOVE LAGGING (LOR) - The lagging is machined flat, then grooves are machined in at an angle. As the rubber is compressed by the belt, the lagging will deflect towards the center, helping to track the belt, as you can see in the cross sectional view. (3/4" min.)



CERAMIC LAGGING - Ceramic lagging is a premium lagging where the ceramic tiles are molded into a rubber compound which makes for excellent traction, eliminates slippage, and offers excellent abrasion resistance. Available in 3 thicknesses; 5/8, 3/4 and 1". For tensions up to 1500 PIW, PPI recommends 5/8" and 3/4". For tensions over 1500 PIW please contact PPI Engineering Department as 1" thickness may be required.



CRAFT-LAG® REPLACEABLE LAGGING - Craft-Lag is bonded to rigid backing, which is then formed to a specific diameter. Craft-Lag can be used with or without retainers and is ideal for mining, crushed stone, sand and gravel, cement, agriculture, food processing, coal mining, power plants, feed and grain, and general industry.

Other Lagging is available for specific applications. An example of this is **ROUGHTOP LAGGING**. This are used for small diameter drive pulleys. It is created by lagging the pulley, but before the rubber is cured, a special mold is applied to the lagging to cause the grooves to be formed in the lagging, and it is cured with this form in place. It gives excellent traction, without cutting grooves. By forming the groove in the lagging, PPI can offer **ROUGHTOP** on thin lagging, such as 1/4". Consult the factory for your specific requirements.

For operation & maintenance manuals, check out our website at <http://www.ppipella.com>, just click on Operation Manuals.

Lagging Properties

Subject to change without notice

Lagging Compound			CHEMICAL RESISTANCE PROPERTIES						Remarks
Material	Shore A Duro ±5	Color	Oil & Gas	Animal/ Veg. Oils	Alcohols	Alkalies	Acids	Oxygen Solvent	
SBR	45, 60, 70, 80, 90	BLACK	D	C	B	C	C+	B	Low Cost
NEOPRENE	45*, 60*, 75	BLACK	C+	B	B+	A	B	D+	Grain & MSHA
URETHANE	45, 60, 90	RED	B+	B	C+	D	D+	D	Low Temp
SLIP RESISTANT	60	BLACK	D	C	B	C	C+	B	Slip Resistant
NITRILE	45, 60	BLACK	B+	B+	C+	B+	B	D	Oil Resistant
EPDM	60-BLK, 70-WHT	BLK/WHT	D	B	C+	B+	B	B+	High Temp
NATURAL	60, 70-BLK/60-WHT	BLK/WHT	D	C	B	C	C+	B	
NEOPRENE (FDA)	60	WHITE	C+	B	B+	A	B	D+	Food Service
NITRILE (FDA)	50, 90	WHITE	B+	B+	C+	B+	B	D	Food Service

A-Excellent, B-Good, C-Fair, D-Poor.

*Requires a stamp for MSHA Approval.

Lagging Compound			ENVIRONMENTAL RESISTANCE PROPERTIES						
Material	Shore A Duro ±5	Color	Oxidation	Ozone	Weathering	Sunlight	Water	Flame	Heat
SBR	45, 60, 70, 80, 90	BLACK	C+	D	C	C	B+	D	C+
NEOPRENE	45*, 60*, 75	BLACK	B+	B	B	B+	B	B *	C+
URETHANE	45, 60, 90	RED	B+	A	B+	B+	B	D+	C+
SLIP RESISTANT	60	BLACK	C+	D	C	C	B+	D	C+
NITRILE	45, 60	BLACK	C+	D	C+	D+	B+	D	B
EPDM	60-BLK, 70-WHT	BLK/WHT	B+	A	A	A	A	D	B+
NATURAL	60, 70-BLK/60-WHT	BLK/WHT	C+	D	C	D+	A	D	C
NEOPRENE (FDA)	60	WHITE	B+	B	B	B+	B	B	C+
NITRILE (FDA)	50, 90	WHITE	C+	D	C+	D+	B+	D	B

SBR - Styrene Butadiene Copolymer
Nitrile - Butadiene Acrylonitrile Copolymer

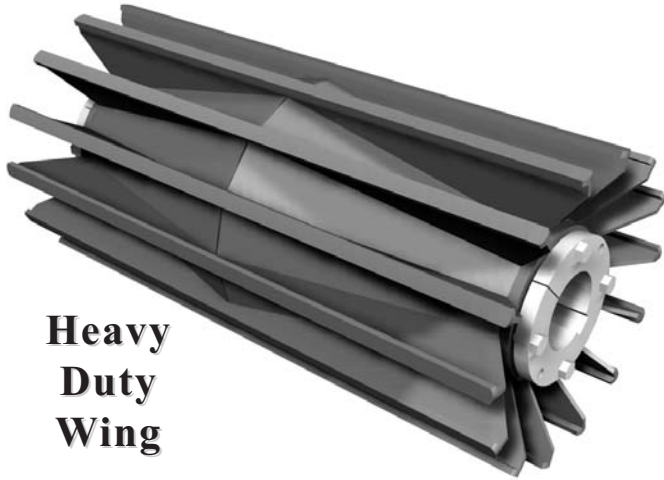
Neoprene - Chloroprene Polymer
EPDM - Ethylene ProPylyene Copolymer & Terpolymer

Natural - Poly Isoprene
Urethane - Urethane Polymer

Lagging Compound			PHYSICAL PROPERTIES						
Material	Shore A Duro ±5	Color	Min Tensile Str. (psi)	Elongation	Max Temp	Min Temp	300% Mod (psi)	Tan Delta	DIN Abrasion
SBR	45	BLACK	1900	600%	225 F	-50 F	350	--	--
	60		2000	450%			1100	0.36	187
	70		2000	400%			1400	--	--
	80		2400	400%			--	--	--
	90		N/A	N/A			--	--	--
NEOPRENE	45*	BLACK	1500	400%	212 F	-50 F	450	--	--
	60*		2000	400%			1400	0.36	188
	75		1850	290%			--	--	--
URETHANE	45	RED	1960	710%	225 F	-40 F	310	0.13	130
	60		2770	570%			1330	0.13	130
	90		4700	450%			2100	0.13	130
SLIP RESISTANT	60	BLACK	3000	450%	200 F	-40 F	1000	0.075	96
NITRILE	45	BLACK	1210	840%	250 F	-40 F	190	--	--
	60		1870	690%			390	--	--
EPDM	60	BLACK	1290	560%	300 F	-40 F	350	--	--
	70	WHITE	1080	520%			500	--	--
NATURAL	60 (BLK or WHT)	--	2750	500%	180 F	-45 F	1070	--	--
	70 (BLK)		1470	330%			1310	--	--
NEOPRENE (FDA)	60	WHITE	1200	600%	212 F	-50 F	375	--	--
NITRILE (FDA)	50	WHITE	--	--	250 F	-40 F	--	--	--
	90		--	--			--	--	--

Note: The table is organized by usage. The more common materials are at the top, and items further down may require extended deliveries.

WING Conveyor Pulleys



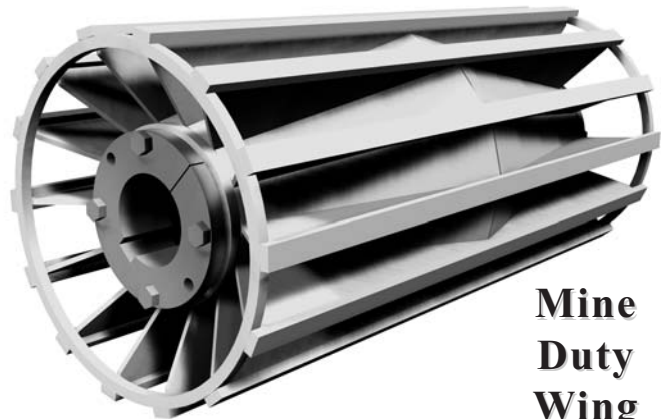
**Heavy
Duty
Wing**

“HDW” HEAVY DUTY WING PULLEY

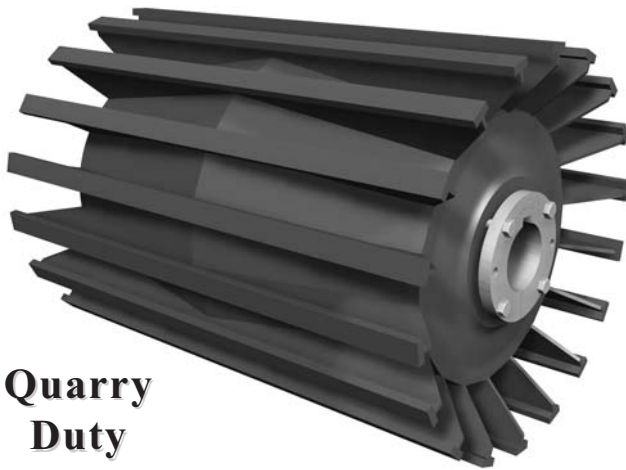
Pulley and belt life is extended by the self-cleaning action of the PPI “HDW” Heavy Duty Wing Pulley. Individual all-steel wings and gussets expel excessive buildup of material from the area of belt contact which enhances traction and reduces abrasion of both belt and pulley. Where abrasion and excessive build up conditions exist, the “HDW” pulley with self-cleaning action provides an excellent alternative to conventional drum style pulleys. It’s available with various hub and bushing systems.

“MDW” MINE DUTY WING PULLEY

Demanding wing pulley applications call for PPI Mine Duty Wing Pulleys. Designed after the “HDW” Heavy Duty Wing Pulley, Mine Duty Wing Pulleys feature the same self-cleaning action that reduces excessive material buildup. The extra heavy duty construction reduces the possibility of metal fatigue and enhances the dependability of the PPI “MDW” Pulley. A 3/4" x 3/4" reinforcement ring is used on all “MDW” Pulleys. Available with various hub and bushing systems.



**Mine
Duty
Wing**



**Quarry
Duty
Wing**

“QMW” QUARRY MAX DUTY WING PULLEY

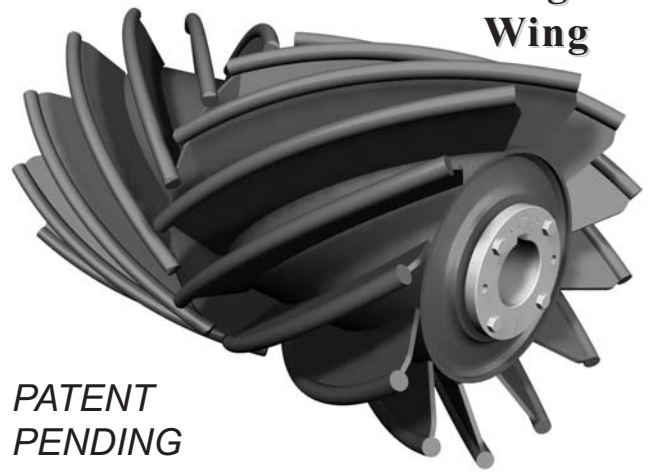
The PPI “QMW” Quarry Max Duty Wing Pulley was designed for the most challenging operating environments and where abrasion wear is an issue. QMW Pulleys feature the same self-cleaning action and robust construction as our Mine Duty Wing but the Quarry Max Duty Wing uses standard 3/4" x 2" contact bar for extended life in high wear applications. PPI’s XHD Faslag replaceable wing lagging can be installed on the QMW for even greater abrasion resistance. The QMW pulley is available with various hub and bushing systems.

Note: PPI’s standard paint is grey. Mine Duty/Quarry Duty pulleys are painted yellow. All pulleys with ProDuty hub/end disc are painted green.

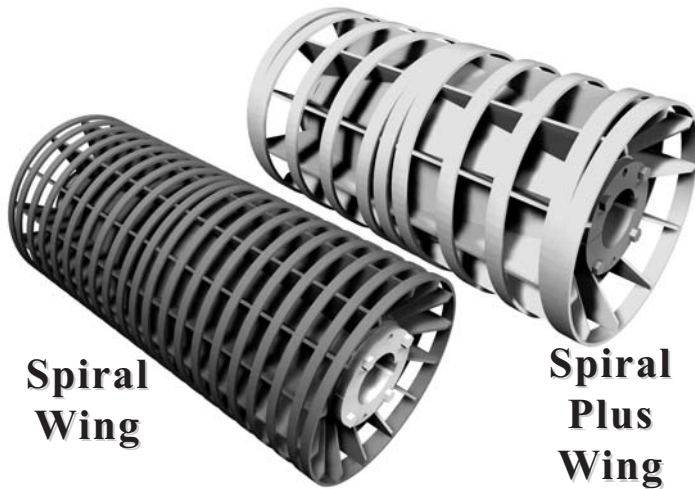
“HBW” HERRINGBONE WING™

The PPI Herringbone Wing™ Pulley is built with heavy Quarry Duty thickness wings at angles up to 45 degrees (depending upon pulley geometry). This aggressive wing angle acts to effectively discharge material and maintains constant contact with the belt for smoother operation. While the Herringbone Wing™ works well in any non-drive locations, the unique design works exceptionally well for tail pulleys, where loading and spillage can cause issues with the pulley. Wing spacing and angle is optimized to handle 3” to 6” lump size. The large round contact bars are formed into a radius crown, reducing belt stress while maintaining excellent tracking. The radius crown will reduce contact bar wear associated with conventional wing pulleys. Available with XT® bushings or keyless locking assemblies.

Herringbone Wing



*PATENT
PENDING*



**Spiral
Wing**

**Spiral
Plus
Wing**

SPIRAL & SPIRAL PLUS WING PULLEY

The PPI Spiral Wing Pulley is formed by a flat bar helically wound towards one another, welded to all steel wings, with intervals between them to allow excess material to discharge to the side of the conveyor. Although similar to a standard wing pulley, this design permits continuous pulley contact with the belt during rotation which eliminates excessive noise and vibration without sacrificing self-cleaning action. The PPI Spiral Plus Wing Pulley is built with Mine Duty Material thicknesses and a heavier spiral bar with wider

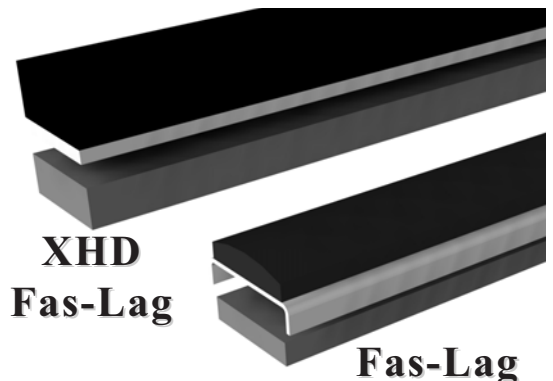
spacing to allow larger lump sizes to pass between the spiral bars. Available with various hub and bushing systems.

XHD FAS-LAG® REPLACEABLE LAGGING

This easy to install wing pulley lagging system is designed for the Quarry Max Duty Wing pulley. It is welded to the flat contact bar to provide additional traction, protection for the contact bar, and protection for the mechanical splice. The lagging is 2" wide by 1" thick to provide extra life. The standard is black 60 durometer SBR.

FAS-LAG® REPLACEABLE LAGGING

This easy to install wing pulley lagging system is designed for original pulley lagging. It is welded to flat contact bar to provide additional traction, protection for the contact bar, and protection for the mechanical splice. The standard is black 60 durometer SBR, but it can be provided with other compounds and colors.



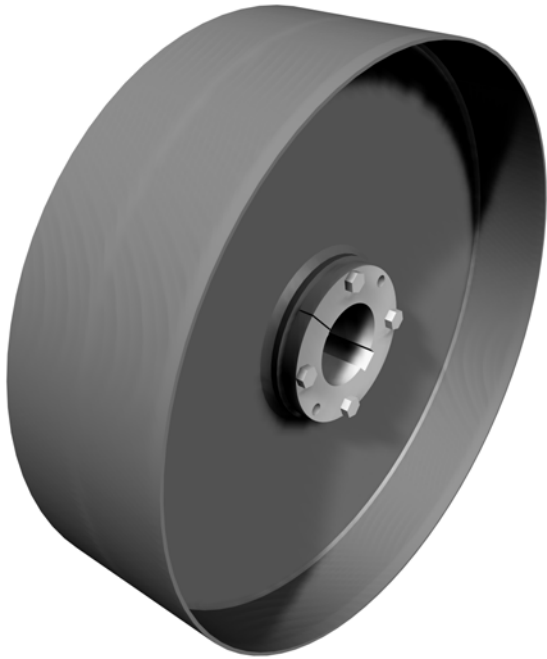
**XHD
Fas-Lag**

Fas-Lag

For operation & maintenance manuals, check out our website at <http://www.ppipella.com>, just click on Operation Manuals.

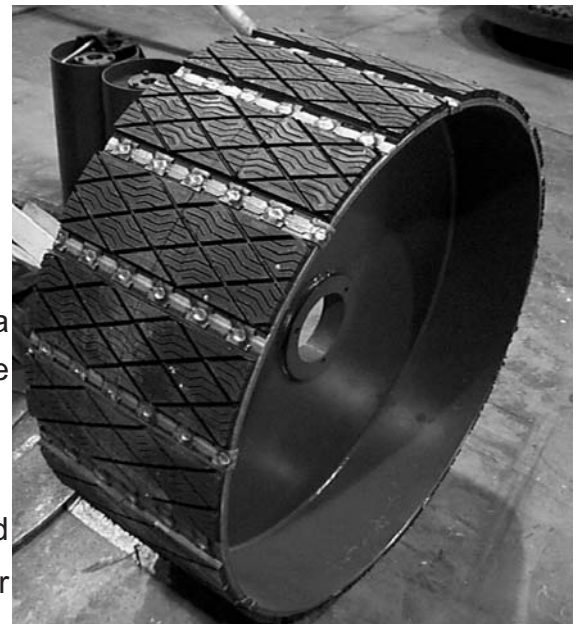
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Single Disc/Elevator Pulleys



“SDE” SINGLE DISC ELEVATOR PULLEY

A continuous weld of the disc to the rim, coupled with heavy duty construction and a high compression hub and bushing, affords a one-piece, all steel, single disc pulley capable of reducing stress and deflection, the most common effects of pulley fatigue.



“SDE” Single Disc Elevator Pulleys are constructed with a standard crown face and XT hubs unless otherwise specified.

“SDE” pulleys are also available with other hub and bushing systems. Contact your local PPI representative for more information.

Bushing insets

face width



HUB	8	9	11	13	15	16
XT25	2 9/16	3 1/16	4 1/16	5 1/16	6 1/16	6 9/16
XT30	2 1/2	3	4	5	6	6 1/2
XT35	2 1/4	2 3/4	3 3/4	4 3/4	5 3/4	6 1/4
XT40	2 1/8	2 5/8	3 5/8	4 5/8	5 5/8	6 1/8
XT45	2	2 1/2	3 1/2	4 1/2	5 1/2	6
XT50	1 3/4	2 1/4	3 1/4	4 1/4	5 1/4	5 3/4
SF	2 1/2	3	4	5	6	6 1/2
E	2	2 1/2	3 1/2	4 1/2	5 1/2	6
F	1 3/4	2 1/4	3 1/4	4 1/4	5 1/4	5 3/4
JS	1 5/8	2 1/8	3 1/8	4 1/8	5 1/8	5 5/8
MS	1 3/8	1 7/8	2 7/8	3 7/8	4 7/8	5 3/8
NS	1 1/8	1 5/8	2 5/8	3 5/8	4 5/8	5 1/8

Deflector Wheel Pulleys

Deflector wheels for pocket belt and/or flexible wall conveyors are just some of the styles available. For a design engineered to your needs, contact your local representative with engineering information and let PPI design and build a custom product for your application.

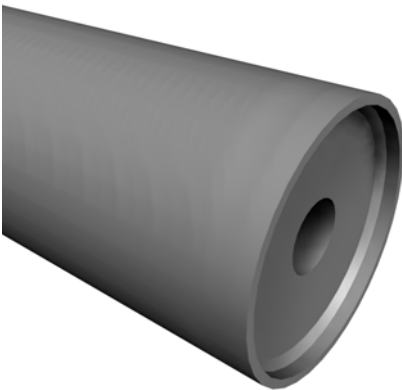


Deflector wheels are available with various hub and bushing systems. Contact your local PPI representative for more information.

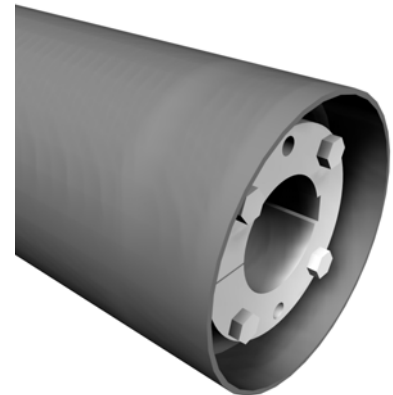
Package Handling Pulleys



Pulleys and rollers used in Package Handling applications typically have a diameter range of 2" through 10", although larger diameters are occasionally required. For moderate loads, 7 through 14 gauge tubing can provide strong construction with economical pricing. For heavier loads 3/16" through 3/8" thick wall tubing is available.



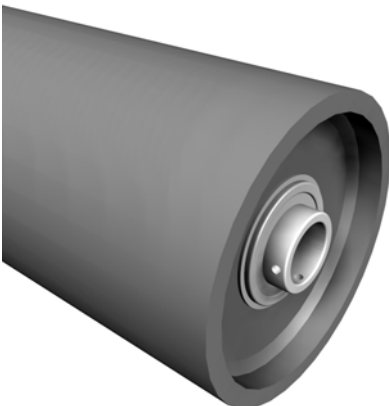
Type A:
Plain bore without hub



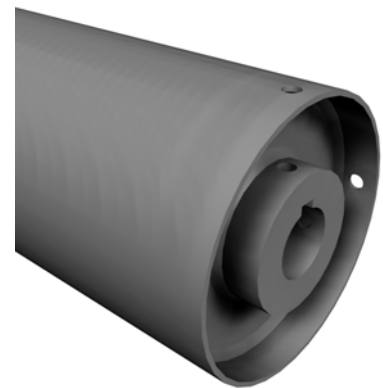
Adapter Type:
Detachable tapered bushing



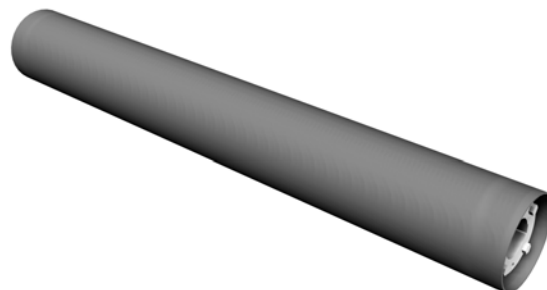
For applications where belt tracking requires a V-guide in the surface of the pulley, use a PPI V-groove pulley. Available in all hub types.



Type C:
Sealed Ball Bearing cartridge with set screw locking collar



Type D:
Finished fixed bore hub with standard key seat



WHAT ARE PACKAGE HANDLING PULLEYS?

These are pulleys used on belt conveyors that carry individual "units" rather than bulk material. Examples of "units" are boxes, bottles, bags, parts, and trays.

WHEN DO I CHOOSE STYLE XPU?

Style XPU is designed for light and moderate duty unit handling conveyor applications where conveyor length, speed, and the number of unit loads per foot do not create heavy loading or high tension on the belt. XPU pulleys are constructed with gauge tubing in full crown or flat face. XPU pulley will accommodate shaft diameters less than 2-7/16".

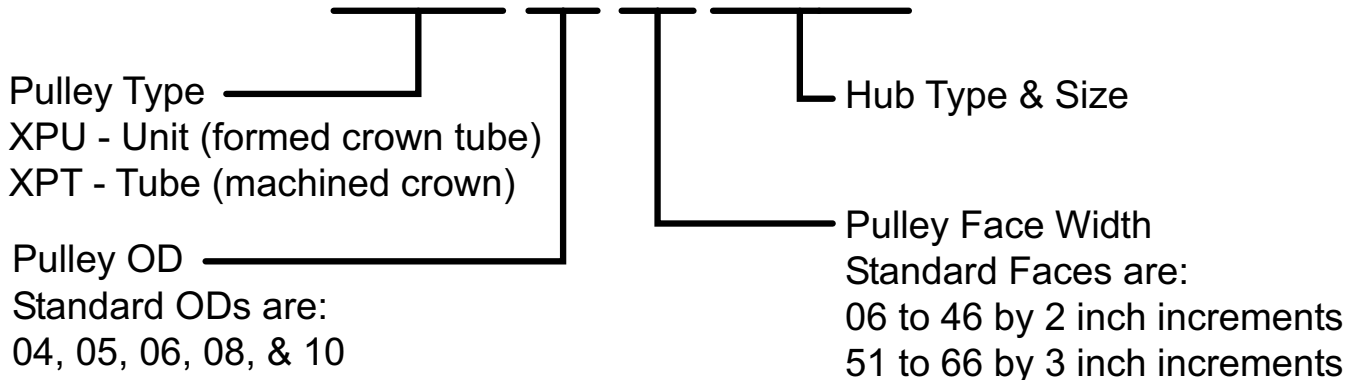
Examples of XPU applications can be packaging machinery, weighing systems, and food processing. Normally, these require small horsepower and smaller shafts, plus minimum diameters for compactness.

WHEN DO I CHOOSE STYLE XPT?

Style XPT is Precision's standard heavy duty machined face tube pulley line. Style XPT is normally constructed of heavier tubing for higher belt pressures and to allow for machining closer runout requirements and for special crowns such as trapezoidal or edge crown and radial crown.

Using heavier rim and end discs, this line provides rugged components for those applications that require higher horsepower, higher belt tensions, and closely controlled runout for high speed systems. XPT pulleys are offered with crowned or flat faces and bores that extend past 2-7/16".

XPU0826XT20



For operation & maintenance manuals, check out our website at <http://www.ppipella.com>, just click on Operation Manuals.

For more information see the PPI Package Handling Catalog.

Other sizes are available upon request

XT[®] Hubs & Bushings

XT[®] Hub & Bushings are a computer-designed hub and bushing specifically developed for conveyor pulley applications. This design utilizes a tapered bore bushing, providing all the holding power you'll ever need for conveyor pulleys, while providing easier installation and removal than other bushing types

- Designed for conveyor pulley applications
- 2" per foot taper
- Self-Seating – no need to hammer bushing in
- Less axial movement – reduces end disc stress and seats quicker
- High clamping force eliminates need for keyway on Non-Drives
- Bolts equally space for even draw-up
- More material in the barrel
- Full length hub engagement
- Flange deflection stores up capscrew torque for seating while running
- Easy Removal
- Full Size keys in max bores for size 50 and larger



Precision offers the XT[®] with larger hub diameters and longer hubs for greater load capacity. Precision has found that the XT[®] taper and heavy barrel are best suited to our design philosophy and recommends them for pulley hub usages.

XT[®] Dimensional Information

HUB	MAX BORE	HUB DIMENSION				Bushings Inset (E)	BUSHING DIMENSION						
		Outside Diameter (A)	Minor Outside Diameter (B)	Flange Thickness (C)	Length (D)		Length (F)	Flange Thickness (G)	Flange Outside Diameter (H)	Bolt Circle (J)	# Bolts	Bolt diameter	Torque (in lbs)
XT15	1.5	3 1/4	2 7/8	1/4	3/4	7/16	1 1/8	3/8	2 7/8	2 7/16	4	1/4	95
XT20	2	4 1/8	3 3/4	1/4	7/8	9/16	1 1/2	15/32	3 3/4	3 3/16	4	5/16	200
XT25	2.5	4 3/4	4 1/2	5/16	1 1/4	3/8	1 7/8	5/8	4 7/16	3 3/4	4	3/8	350
XT30	3	6	5 3/4	3/8	1 1/2	7/16	2 1/16	11/16	5 5/16	4 9/16	4	7/16	550
XT35	3.5	6 3/4	6 1/2	3/8	1 3/4	9/16	2 1/2	25/32	6 5/16	5 7/16	4	1/2	840
XT40	4	7 3/4	7 1/2	1/2	1 7/8	13/16	2 13/16	7/8	7 1/8	6 1/8	4	9/16	1,200
XT45	4.5	8 1/4	8	1/2	2 1/8	15/16	3 5/16	15/16	8	6 7/8	4	5/8	1,680
XT50	5	10 1/4	9 7/8	5/8	2 3/8	7/8	3 3/4	1	10 1/8	8 5/16	4	3/4	3,000
XT60	6	11 7/8	11 1/2	13/16	2 7/8	13/16	4 1/8	1 1/8	11 15/16	9 7/8	4	7/8	4,800
XT70	7	13 7/8	13 1/2	15/16	3 1/8	1	4 11/16	1 5/16	13 15/16	11 9/16	4	1	7,200
XT80	8	15 1/4	14 3/4	1	3 5/8	1 1/16	5 1/8	1 3/8	15 5/8	12 7/8	4	1 1/8	9,000
XT100	10	18	17 1/2	1 1/8	4 1/8	1 1/8	6 3/16	1 9/16	17 15/16	15 9/16	6	1 1/8	9,000
XT120	12	21	20 1/2	1 5/16	4 7/8	7/8	7 1/16	1 3/4	20 5/8	18 3/16	8	1 1/8	9,000

For operation & maintenance manuals, check out our website at <http://www.ppipella.com>, just click on Operation Manuals.

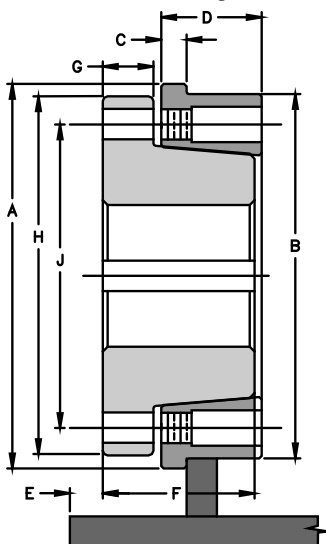
XT® Key Sizes

HUB	Bore Range	Keyway		Keystock
		Shaft	Bushing	
XT15	1/2-9/16	1/8 x 1/16	1/8 x 1/16	1/8 x 1/8
	5/8-7/8	3/16 x 3/32	3/16 x 3/32	3/16 x 3/16
	15/16 - 1 1/4	1/4 x 1/8	1/4 x 1/8	1/4 x 1/4
	1 5/16 - 1 3/8	5/16 x 5/32	5/16 x 5/32	5/16 x 5/16
	1 7/16 - 1 1/2	3/8 x 3/16	3/8 x 1/8	3/8 x 5/16
XT20	3/4-7/8	3/16 x 3/32	3/16 x 3/32	3/16 x 3/16
	15/16 - 1 1/4	1/4 x 1/8	1/4 x 1/8	1/4 x 1/4
	1 5/16 - 1 3/8	5/16 x 5/32	5/16 x 5/32	5/16 x 5/16
	1 7/16 - 1 3/4	3/8 x 3/16	3/8 x 3/16	3/8 x 3/8
	1 13/16 - 2	1/2 x 1/4	1/2 x 3/16	1/2 x 7/16
XT25	1 - 1 1/4	1/4 x 1/8	1/4 x 1/8	1/4 x 1/4
	1 5/16 - 1 3/8	5/16 x 5/32	5/16 x 5/32	5/16 x 5/16
	1 7/16 - 1 3/4	3/8 x 3/16	3/8 x 3/16	3/8 x 3/8
	1 13/16 - 2 1/4	1/2 x 1/4	1/2 x 1/4	1/2 x 1/2
	2 5/16 - 2 1/2	5/8 x 5/16	5/8 x 1/8	5/8 x 7/16
XT30	1 7/16 - 1 3/4	3/8 x 3/16	3/8 x 3/16	3/8 x 3/8
	1 13/16 - 2 1/4	1/2 x 1/4	1/2 x 1/4	1/2 x 1/2
	2 5/16 - 2 3/4	5/8 x 5/16	5/8 x 5/16	5/8 x 5/8
	2 13/16 - 3	3/4 x 3/8	3/4 x 3/16	3/4 x 9/16
XT35	1 15/16 - 2 1/4	1/2 x 1/4	1/2 x 1/4	1/2 x 1/2
	2 5/16 - 2 3/4	5/8 x 5/16	5/8 x 5/16	5/8 x 5/8
	2 13/16 - 3 1/4	3/4 x 3/8	3/4 x 3/8	3/4 x 3/4
	3 5/16 - 3 3/8	7/8 x 7/16	7/8 x 7/16	7/8 x 7/8
	3 7/16 - 3 1/2	7/8 x 7/16	7/8 x 5/16	7/8 x 3/4
XT40	2 7/16 - 2 3/4	5/8 x 5/16	5/8 x 5/16	5/8 x 5/8
	2 13/16 - 3 1/4	3/4 x 3/8	3/4 x 3/8	3/4 x 3/4
	3 5/16 - 3 3/4	7/8 x 7/16	7/8 x 7/16	7/8 x 7/8
	3 13/16	1 x 1/2	1 x 1/2	1 x 1
	3 7/8 - 4	1 x 1/2	1 x 3/8	1 x 7/8

HUB	Bore Range	Keyway		Keystock
		Shaft	Bushing	
XT45	2 7/16 - 2 3/4	5/8 x 5/16	5/8 x 5/16	5/8 x 5/8
	2 13/16 - 3 1/4	3/4 x 3/8	3/4 x 3/8	3/4 x 3/4
	3 5/16 - 3 3/4	7/8 x 7/16	7/8 x 7/16	7/8 x 7/8
	3 13/16 - 4 5/16	1 x 1/2	1 x 1/2	1 x 1
	4 3/8 - 4 1/2	1 x 1/2	1 x 3/8	1 x 7/8
XT50	2 15/16 - 3 1/4	3/4 x 3/8	3/4 x 3/8	3/4 x 3/4
	3 5/16 - 3 3/4	7/8 x 7/16	7/8 x 7/16	7/8 x 7/8
	3 13/16 - 4 1/2	1 x 1/2	1 x 1/2	1 x 1
	4 9/16 - 5	1 1/4 x 5/8	1 1/4 x 5/8	1 1/4 x 1 1/4
XT60	3 7/16 - 3 3/4	7/8 x 7/16	7/8 x 7/16	7/8 x 7/8
	3 13/16 - 4 1/2	1 x 1/2	1 x 1/2	1 x 1
	4 9/16 - 5 1/2	1 1/4 x 5/8	1 1/4 x 5/8	1 1/4 x 1 1/4
	5 9/16 - 6	1 1/2 x 3/4	1 1/2 x 3/4	1 1/2 x 1 1/2
	6 3/16 - 6 1/2	1 1/2 x 3/4	1 1/2 x 3/4	1 1/2 x 1 1/2
XT70	4 15/16 - 5 1/2	1 1/4 x 5/8	1 1/4 x 5/8	1 1/4 x 1 1/4
	5 9/16 - 6 1/2	1 1/2 x 3/4	1 1/2 x 3/4	1 1/2 x 1 1/2
	6 9/16 - 7	1 3/4 x 3/4	1 3/4 x 3/4	1 3/4 x 1 1/2
XT80	4 15/16 - 5 1/2	1 1/4 x 5/8	1 1/4 x 5/8	1 1/4 x 1 1/4
	5 9/16 - 6 1/2	1 1/2 x 3/4	1 1/2 x 3/4	1 1/2 x 1 1/2
	6 9/16 - 7 1/2	1 3/4 x 3/4	1 3/4 x 3/4	1 3/4 x 1 1/2
	7 9/16 - 8	2 x 3/4	2 x 3/4	2 x 1 1/2
XT100	6 9/16 - 7 1/2	1 3/4 x 3/4	1 3/4 x 3/4	1 3/4 x 1 1/2
	7 9/16 - 9	2 x 3/4	2 x 3/4	2 x 1 1/2
XT120	9 1/16 - 10	2 1/2 x 7/8	2 1/2 x 7/8	2 1/2 x 1 3/4
	8 7/16 - 9	2 x 3/4	2 x 3/4	2 x 1 1/2
XT120	9 1/16 - 11	2 1/2 x 7/8	2 1/2 x 7/8	2 1/2 x 1 3/4
	11 1/16 - 12	3 x 1	3 x 1	3 x 2

Unshaded key sizes are FULL Depth Keys

Keys are provided for shaded cells only, (non-standard key sizes)
Subject to change without notice



X250207

XT Bushing Type

Shaft Size in sixteenths of an inch

XT Bushing Size

Shaft Size in inches

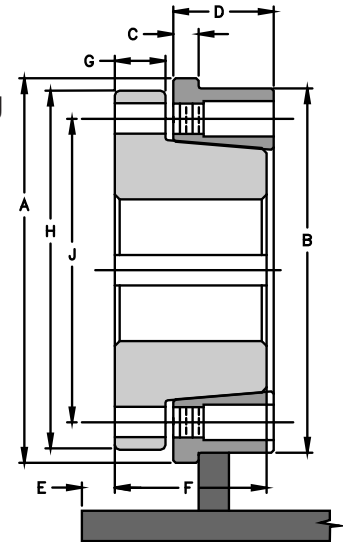
15, 20, 25, 30, 35, 40, 45, 50, 60, 70, 80,
10 for 100, 12 for 120

For Metric Key Sizes, please see our website at <http://www.ppipella.com>, just click on Catalogs, and scroll down to XT Charts (also in our XT installation Instructions on the O&M page)

QD[®] Hubs & Bushings

QD[®] has a primary benefit of bushing interchangeability with other shaft mounted components. Its shallow taper provides a high mechanical advantage to assure dependable clamping to the shaft.

- Designed for a wide variety of applications
- 3/4" per foot taper - self-seating
- High clamping force eliminates need for keyway on non-drives
- Flange deflection stores up capscrew torque for seating while running



QD[®] Dimensional Information

HUB	MAX BORE *	HUB DIMENSION				BUSHING							
		Outside Diameter (A)	Minor Outside Diameter (B)	Flange Thickness (C)	Length (D)	Bushing Inset (E)	Length (F)	Flange Thickness (G)	Flange Outside Diameter (H)	Bolt Circle (J)	# Bolts	Bolt diameter	Torque (in lbs)
JA	1.00	2 1/4	2 1/8	1/4	5/8	3/8	1	5/16	2	1 21/32	3	#10	54
SH	1.44	3	2 7/8	1/4	7/8	9/16	1 5/16	7/16	2 5/8	2 1/4	3	1/4	108
SDS	2.00	3 1/2	3 1/4	1/4	3/4	9/16	1 5/16	7/16	3 1/8	2 11/16	3	1/4	108
SK	2.25	4 1/2	4 3/8	3/8	1 1/4	3/8	1 15/16	9/16	3 7/8	3 5/16	3	5/16	200
SF	2.50	4 3/4	4 1/2	5/16	1 1/4	1/2	2 1/16	5/8	4 5/8	3 7/8	3	3/8	360
E	3.00	6	5 3/4	3/8	1 1/2	7/16	2 3/4	7/8	6	5	3	1/2	720
F	3.50	6 3/4	6 1/2	3/8	1 3/4	3/4	3 3/4	1	6 5/8	5 5/8	3	9/16	900
JS	4.00	7 3/4	7 1/2	1/2	1 7/8	11/16	3 3/8	1	7 1/4	6 1/4	3	5/8	1,620
MS	4.50	9 1/2	9 1/4	1/2	2 1/8	3/4	4 13/16	1 3/16	9	7 7/8	4	3/4	2,700
NS	5.00	10 1/4	10	5/8	2 3/8	1	6	1 1/2	10	8 1/2	4	7/8	3,600
PS	6.00	12 1/4	12	7/8	3 1/8	13/16	6 1/2	1 1/2	11 3/4	10	4	1	5,400
WS	8.00	15 1/4	14 3/4	15/16	3 5/8	1 5/16	7 1/4	1 3/4	15	12 3/4	4	1 1/8	7,200
SS	10.00	17 1/2	17	1 1/8	4 1/8	1 3/16	8 3/4	2	17 3/8	15	5	1 1/4	9,000
ZS	12.00	22	21 1/2	1 1/4	4 7/8	1 1/16	8 3/4	2	22	19	5	1 1/8	7,200

*Max bore of QD hubs is the maximum recommended for 2 hub assemblies, such as conveyor pulleys.

For operation & maintenance manuals, check out our website at <http://www.ppipella.com>, just click on Operation Manuals.

QD® Key Sizes

HUB	Bore Range	Keyway		Keystock
		Shaft	Bushing	
SH	1/2-9/16	1/8 x 1/16	1/8 x 1/16	1/8 x 1/8
	5/8-7/8	3/16 x 3/32	3/16 x 3/32	3/16 x 3/16
	15/16 - 1 1/4	1/4 x 1/8	1/4 x 1/8	1/4 x 1/4
	1 5/16 - 1 3/8	5/16 x 5/32	5/16 x 5/32	5/16 x 5/16
	1 7/16 - 1 5/8	3/8 x 3/16	3/8 x 1/16	3/8 x 1/4
	1 11/16	NONE	NONE	NONE
SDS	1/2-9/16	1/8 x 1/16	1/8 x 1/16	1/8 x 1/8
	5/8-7/8	3/16 x 3/32	3/16 x 3/32	3/16 x 3/16
	15/16 - 1 1/4	1/4 x 1/8	1/4 x 1/8	1/4 x 1/4
	1 5/16 - 1 3/8	5/16 x 5/32	5/16 x 5/32	5/16 x 5/16
	1 7/16 - 1 5/8	3/8 x 3/16	3/8 x 3/16	3/8 x 3/8
	1 11/16 - 1 3/4	3/8 x 3/16	3/8 x 1/8	3/8 x 5/16
1 13/16 - 2	NONE	NONE	NONE	
SK	1/2-9/16	1/8 x 1/16	1/8 x 1/16	1/8 x 1/8
	5/8-7/8	3/16 x 3/32	3/16 x 3/32	3/16 x 3/16
	15/16 - 1 1/4	1/4 x 1/8	1/4 x 1/8	1/4 x 1/4
	1 5/16 - 1 3/8	5/16 x 5/32	5/16 x 5/32	5/16 x 5/16
	1 7/16 - 1 3/4	3/8 x 3/16	3/8 x 3/16	3/8 x 3/8
	1 13/16 - 2 1/8	1/2 x 1/4	1/2 x 1/4	1/2 x 1/2
	2 3/16 - 2 1/4	1/2 x 1/4	1/2 x 1/8	1/2 x 3/8
	2 5/16 - 2 1/2	5/8 x 5/16	5/8 x 1/16	5/8 x 3/8
	2 9/16 - 2 5/8	NONE	NONE	NONE
SF	15/16 - 1 1/4	1/4 x 1/8	1/4 x 1/8	1/4 x 1/4
	1 5/16 - 1 3/8	5/16 x 5/32	5/16 x 5/32	5/16 x 5/16
	1 7/16 - 1 3/4	3/8 x 3/16	3/8 x 3/16	3/8 x 3/8
	1 13/16 - 2 1/4	1/2 x 1/4	1/2 x 1/4	1/2 x 1/2
	2 5/16	5/8 x 5/16	5/8 x 5/16	5/8 x 5/8
	2 3/8 - 2 1/2	5/8 x 5/16	5/8 x 3/16	5/8 x 1/2
	2 9/16 - 2 3/4	5/8 x 5/16	5/8 x 1/16	5/8 x 3/8
	2 13/16 - 2 15/16	NONE	NONE	NONE
E	1 5/16 - 1 3/8	5/16 x 5/32	5/16 x 5/32	5/16 x 5/16
	1 7/16 - 1 3/4	3/8 x 3/16	3/8 x 3/16	3/8 x 3/8
	1 13/16 - 2 1/4	1/2 x 1/4	1/2 x 1/4	1/2 x 1/2
	2 5/16 - 2 3/4	5/8 x 5/16	5/8 x 5/16	5/8 x 5/8
	2 13/16 - 2 7/8	3/4 x 3/8	3/4 x 3/8	3/4 x 3/4
	2 15/16 - 3 1/4	3/4 x 3/8	3/4 x 1/8	3/4 x 1/2
	3 5/16 - 3 1/2	NONE	NONE	NONE

HUB	Bore Range	Keyway		Keystock
		Shaft	Bushing	
F	1 13/16 - 2 1/4	1/2 x 1/4	1/2 x 1/4	1/2 x 1/2
	2 5/16 - 2 3/4	5/8 x 5/16	5/8 x 5/16	5/8 x 5/8
	2 13/16 - 3 1/4	3/4 x 3/8	3/4 x 3/8	3/4 x 3/4
	3 5/16 - 3 3/4	7/8 x 7/16	7/8 x 3/16	7/8 x 5/8
	3 13/16 - 4	NONE	NONE	NONE
JS	2 13/16 - 3 1/4	3/4 x 3/8	3/4 x 3/8	3/4 x 3/4
	3 5/16 - 3 3/4	7/8 x 7/16	7/8 x 7/16	7/8 x 7/8
	3 13/16	1 x 1/2	1 x 1/2	1 x 1
	3 7/8 - 4	1 x 1/2	1 x 1/4	1 x 3/4
MS	4 1/16 - 4 1/2	1 x 1/2	1 x 1/8	1 x 5/8
	2 13/16 - 3 1/4	3/4 x 3/8	3/4 x 3/8	3/4 x 3/4
	3 5/16 - 3 3/4	7/8 x 7/16	7/8 x 7/16	7/8 x 7/8
	3 13/16 - 4 1/2	1 x 1/2	1 x 1/2	1 x 1
	4 9/16 - 4 3/4	1 1/4 x 5/8	1 1/4 x 5/8	1 1/4 x 1 1/4
NS	4 13/16 - 5 1/4	1 1/4 x 5/8	1 1/4 x 3/8	1 1/4 x 1
	5 5/16 - 5 1/2	1 1/4 x 5/8	1 1/4 x 1/4	1 1/4 x 7/8
	3 5/16 - 3 3/4	7/8 x 7/16	7/8 x 7/16	7/8 x 7/8
	3 13/16 - 4 1/2	1 x 1/2	1 x 1/2	1 x 1
PS	4 9/16 - 5 1/4	1 1/4 x 5/8	1 1/4 x 5/8	1 1/4 x 1 1/4
	5 5/16 - 5 1/2	1 1/4 x 5/8	1 1/4 x 3/8	1 1/4 x 1
	5 9/16 - 6	1 1/2 x 3/4	1 1/2 x 1/4	1 1/2 x 1
	3 13/16 - 4 1/2	1 x 1/2	1 x 1/2	1 x 1
WS	4 9/16 - 5 1/2	1 1/4 x 5/8	1 1/4 x 5/8	1 1/4 x 1 1/4
	5 9/16 - 6 1/4	1 1/2 x 3/4	1 1/2 x 3/4	1 1/2 x 1 1/2
	6 5/16 - 6 1/2	1 1/2 x 3/4	1 1/2 x 1/2	1 1/2 x 1 1/4
	6 9/16 - 7	1 3/4 x 3/4	1 3/4 x 1/4	1 3/4 x 1
SS	5 9/16 - 6 1/2	1 1/2 x 3/4	1 1/2 x 3/4	1 1/2 x 1 1/2
	6 9/16 - 7 1/2	1 3/4 x 3/4	1 3/4 x 3/4	1 3/4 x 1 1/2
	7 9/16 - 8 1/8	2 x 3/4	2 x 3/4	2 x 1 1/2
	8 3/16 - 8 1/2	2 x 3/4	2 x 1/4	2 x 1
ZS	6 9/16 - 7 1/2	1 3/4 x 3/4	1 3/4 x 3/4	1 3/4 x 1 1/2
	7 9/16 - 9	2 x 3/4	2 x 3/4	2 x 1 1/2
	9 1/16 - 9 1/2	2 1/2 x 7/8	2 1/2 x 7/8	2 1/2 x 1 3/4
ZS	9 9/16 - 10	2 1/2 x 7/8	2 1/2 x 1/4	2 1/2 x 1 1/8
	7 9/16 - 9	2 x 3/4	2 x 3/4	2 x 1 1/2
	9 1/16 - 11	2 1/2 x 7/8	2 1/2 x 7/8	2 1/2 x 1 3/4
	11 1/16 - 12	3 x 1	3 x 1	3 x 2

Keys are provided for shaded cells only, (non-standard key sizes)
Subject to change without notice

Unshaded key sizes are FULL Depth Keys

For Metric Key Sizes, please see our website at <http://www.ppipella.com>, just click on Catalogs, and scroll down to QD Charts (also in our QD Instructions on the O&M page.)

QSF0207



XT[®] Metric Keys

METRIC DIMENSIONS (mm)						DIMENSIONS CONVERTED TO ENGLISH UNITS (in)				
HUB	Bore	Shaft	Bushing	Keystock	Length	HUB	Bore	Key Width	Key Height	Length
XT15	20	6 x 3.5	6 x 2.8	6 x 6	28	XT15	0.787	0.236	0.236	1 1/8
	25 - 30	8 x 4	8 x 3.3	8 x 7			0.984 - 1.181	0.315	0.276	
	35	10 x 5	10 x 3.3	10 x 8			1.378	0.394	0.315	
XT20	20	6 x 3.5	6 x 2.8	6 x 6	35	XT20	0.787	0.236	0.236	1 3/8
	25 - 30	8 x 4	8 x 3.3	8 x 7			0.984 - 1.181	0.315	0.276	
	35	10 x 5	10 x 3.3	10 x 8			1.378	0.394	0.315	
	40	12 x 5	12 x 3.3	12 x 8			1.575	0.472	0.315	
	45 - 50	14 x 5.5	14 x 3.8	14 x 9			1.772 - 1.969	0.551	0.354	
XT25	25 - 30	8 x 4	8 x 3.3	8 x 7	48	XT25	0.984 - 1.181	0.315	0.276	1 7/8
	35	10 x 5	10 x 3.3	10 x 8			1.378	0.394	0.315	
	40	12 x 5	12 x 3.3	12 x 8			1.575	0.472	0.315	
	45 - 50	14 x 5.5	14 x 3.8	14 x 9			1.772 - 1.969	0.551	0.354	
	55	16 x 6	16 x 4.3	16 x 10			2.165	0.630	0.394	
	60 - 65	18 x 7	18 x 4.4	18 x 11			2.362 - 2.559	0.709	0.433	
XT30	50	14 x 5.5	14 x 3.8	14 x 9	53	XT30	1.969	0.551	0.354	2 1/16
	55	16 x 6	16 x 4.3	16 x 10			2.165	0.630	0.394	
	60 - 65	18 x 7	18 x 4.4	18 x 11			2.362 - 2.559	0.709	0.433	
	70 - 75	20 x 7.5	20 x 4.9	20 x 12			2.756 - 2.953	0.787	0.472	
XT35	50	14 x 5.5	14 x 3.8	14 x 9	64	XT35	1.969	0.551	0.354	2 1/2
	55	16 x 6	16 x 4.3	16 x 10			2.165	0.630	0.394	
	60 - 65	18 x 7	18 x 4.4	18 x 11			2.362 - 2.559	0.709	0.433	
	70 - 75	20 x 7.5	20 x 4.9	20 x 12			2.756 - 2.953	0.787	0.472	
	80 - 85	22 x 9	22 x 5.4	22 x 14			3.150 - 3.346	0.866	0.551	
	90	25 x 9	25 x 5.4	25 x 14			3.543	0.984	0.551	
XT40	60 - 65	18 x 7	18 x 4.4	18 x 11	72	XT40	2.362 - 2.559	0.709	0.433	2 13/16
	70 - 75	20 x 7.5	20 x 4.9	20 x 12			2.756 - 2.953	0.787	0.472	
	80 - 85	22 x 9	22 x 5.4	22 x 14			3.150 - 3.346	0.866	0.551	
	90 - 95	25 x 9	25 x 5.4	25 x 14			3.543 - 3.740	0.984	0.551	
	100	28 x 10	28 x 6.4	28 x 16			3.937	1.102	0.630	
XT45	90 - 95	25 x 9	25 x 5.4	25 x 14	84	XT45	3.543 - 3.740	0.984	0.551	3 5/16
	100 - 110	28 x 10	28 x 6.4	28 x 16			3.937 - 4.331	1.102	0.630	
XT50	100 - 110	28 x 10	28 x 6.4	28 x 16	95	XT50	3.937 - 4.331	1.102	0.630	3 3/4
	115 - 125	32 x 11	32 x 7.4	32 x 18			4.528 - 4.921	1.260	0.709	
XT60	125 - 130	32 x 11	32 x 7.4	32 x 18	105	XT60	4.921 - 5.118	1.260	0.709	4 1/8
	135 - 150	36 x 12	36 x 8.4	36 x 20			5.315 - 5.906	1.417	0.787	
XT70	160 - 170	40 x 13	40 x 9.4	40 x 22	120	XT70	6.299 - 6.693	1.575	0.866	4 11/16
XT80	180 - 200	45 x 15	45 x 10.4	45 x 25	130	XT80	7.087 - 7.874	1.772	0.984	5 1/8
XT100	220 - 230	50 x 17	50 x 11.4	50 x 28	158	XT100	8.661 - 9.055	1.969	1.102	6 3/16
	240	56 x 20	56 x 12.4	56 x 32			9.449	2.205	1.260	

**Metric Keys Standards are for rectangular keys. All keys are standard full depth keys.
Keys for Metric Bores are not supplied with the bushing, unless mounted on a shaft.**

QD[®] Metric Keys

METRIC DIMENSIONS (mm)						DIMENSIONS CONVERTED TO ENGLISH UNITS (in)				
HUB	Bore	Shaft	Bushing	Keystock	Length	HUB	Bore	Key Width	Key Height	Length
SF	25 - 30	8 x 4	8 x 3.3	8 x 7	53	SF	0.984 - 1.181	0.315	0.276	2 1/16
	35	10 x 5	10 x 3.3	10 x 8			1.378	0.394	0.315	
	40	12 x 5	12 x 3.3	12 x 8			1.575	0.472	0.315	
	45 - 50	14 x 5.5	14 x 3.8	14 x 9			1.772 - 1.969	0.551	0.354	
	55	16 x 6	16 x 4.3	16 x 10			2.165	0.63	0.394	
	60	18 x 7	18 x 4.4	18 x 11			2.362	0.709	0.433	
	65 - 75	None	None	None			2.559 - 2.953	None	None	
E	35	10 x 5	10 x 3.3	10 x 8	70	E	1.378	0.394	0.315	2 3/4
	40	12 x 5	12 x 3.3	12 x 8			1.575	0.472	0.315	
	45 - 50	14 x 5.5	14 x 3.8	14 x 9			1.772 - 1.969	0.551	0.354	
	55	16 x 6	16 x 4.3	16 x 10			2.165	0.63	0.394	
	60 - 65	18 x 7	18 x 4.4	18 x 11			2.362 - 2.559	0.709	0.433	
	70	20 x 7.5	20 x 4.9	20 x 12			2.756	0.787	0.472	
	75 - 90	None	None	None			2.953 - 3.543	None	None	
F	45 - 50	14 x 5.5	14 x 3.8	14 x 9	95	F	1.772 - 1.969	0.551	0.354	3 3/4
	45 - 50	14 x 5.5	14 x 3.8	14 x 9			1.772 - 1.969	0.551	0.354	
	55	16 x 6	16 x 4.3	16 x 10			2.165	0.63	0.394	
	60 - 65	18 x 7	18 x 4.4	18 x 11			2.362 - 2.559	0.709	0.433	
	70 - 75	20 x 7.5	20 x 4.9	20 x 12			2.756 - 2.953	0.787	0.472	
	80 - 85	22 x 9	22 x 5.4	22 x 14			3.150 - 3.346	0.866	0.551	
	90	25 x 9	25 x 5.4	25 x 14			3.543	0.984	0.551	
	95 - 100	None	None	None			3.740 - 3.937	None	None	
JS	60 - 65	18 x 7	18 x 4.4	18 x 11	85	JS	2.362 - 2.559	0.709	0.433	3 3/8
	60 - 65	18 x 7	18 x 4.4	18 x 11			2.362 - 2.559	0.709	0.433	
	70 - 75	20 x 7.5	20 x 4.9	20 x 12			2.756 - 2.953	0.787	0.472	
	80 - 85	22 x 9	22 x 5.4	22 x 14			3.150 - 3.346	0.866	0.551	
	90 - 95	25 x 9	25 x 5.4	25 x 14			3.543 - 3.740	0.984	0.551	
	100 - 110	28 x 10	28 x 6.4	28 x 16			3.937 - 4.331	1.102	0.63	
MS	80 - 85	22 x 9	22 x 5.4	22 x 14	122	MS	3.150 - 3.346	0.866	0.551	4 13/16
	90 - 95	25 x 9	25 x 5.4	25 x 14			3.543 - 3.740	0.984	0.551	
	100 - 110	28 x 10	28 x 6.4	28 x 16			3.937 - 4.331	1.102	0.63	
	115 - 130	32 x 11	32 x 7.4	32 x 18			4.528 - 5.118	1.26	0.709	
NS	100 - 110	28 x 10	28 x 6.4	28 x 16	152	NS	3.937 - 4.331	1.102	0.63	6
	115 - 130	32 x 11	32 x 7.4	32 x 18			4.528 - 5.118	1.26	0.709	
	135 - 140	36 x 12	36 x 8.4	36 x 20			5.312 - 5.512	1.417	0.787	
PS	150	36 x 12	36 x 8.4	36 x 20	165	PS	5.906	1.417	0.787	6 1/2
	160	40 x 13	40 x 9.4	40 x 22			6.299	1.575	0.866	
WS	170	40 x 13	40 x 9.4	40 x 22	184	WS	6.693	1.575	0.866	7 1/4
	180	45 x 15	45 x 10.4	45 x 25			7.087	1.772	0.984	

Metric Keys Standards are for rectangular keys. All keys are standard full depth keys. Keys for Metric Bores are not supplied with the bushing, unless mounted on a shaft.

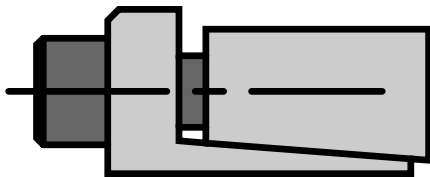
For operation & maintenance manuals, check out our website at <http://www.ppipella.com>, just click on Operation Manuals.

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Employee Owned

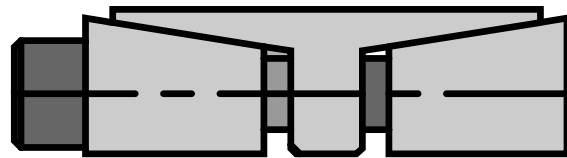
Keyless Locking Assemblies

Keyless locking assemblies were first developed for high torque application such as sprockets, speed reducers, and sheaves. As such, the first ones (B400 in a PPI RB hub) had limitations, as they were not wide enough to handle the high bending moment that occurs in a conveyor pulley. Since that time, other series have been developed in coordination with applications including conveyor pulleys.

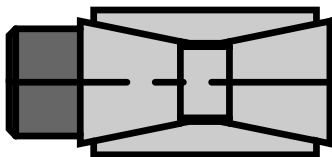
The standard in keyless locking assemblies is the B106 (RBL hub), it is self-centering, and no pilot bushing is needed. The single taper design is better able to handle the bending moment present in pulley applications. For high-tension applications, Precision Pulley & Idler recommends the B115 (in a RBM hub) and the B112 (in a RBH hub). The graphic shows the relative difference in size and bending moment for the each series.



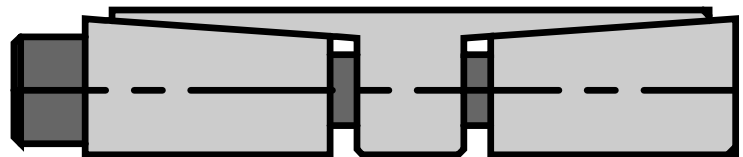
B106 - RBL
(BENDING RATING 104)



B115 - RBM
(BENDING RATING 197)



B400 - RB
(BENDING RATING 100)



B112 - RBH
(BENDING RATING 280)

Precision Pulley & Idler offers the B400 for applications that require continuity with existing products. The chart on the next page gives a range of standard sizes and the relative torque ratings. This is a representation of the sizes that are commonly available. Nominal inch as well as metric sizes are also available for shaft sizes under 8 inch. For special applications, PPI works with the vendor to engineer an appropriate locking assembly designed just for that application.



Keyless Locking Assembly Torque Ratings

ft-lbs

Metric Size	English Size	RB	RBL	RBM	RBH
mm	inch	B400	B106	B115	B112
25	1	329	308		
30	1 3/16	439	370		
35	1 3/8	615	576		
40	1 1/2	819	658		
45	1 3/4	1,455	1,196		
50	1 15/16	1,617	1,329		
55	2 3/16	2,074	1,671		
60	2 3/8	2,263	1,823		
65	2 9/16	2,802	2,222		
70	2 3/4	4,199	3,377		
75	2 15/16	4,500	3,618		
80	3	4,800	3,859		
85	3 3/8	5,827	4,613		
90	3 7/16	6,170	4,885		
95	3 3/4	7,327	5,729		
100	3 15/16	8,778	7,024	13,516	
110	4 7/16	9,657	7,726	14,868	
120	4 3/4	12,038	9,482	17,842	
130	4 15/16	16,302	14,095	24,600	
140	5 7/16	19,313	15,179	28,384	47,224
150	5 15/16	22,575	18,070	30,412	54,211
160		26,083	21,202	34,602	61,680
170	6 7/16	32,136	24,576	47,291	79,695
180	6 15/16	37,122	26,021	50,073	90,410
190	7 7/16	45,710	34,333	56,378	101,795
200	7 7/8	51,555	36,140	66,764	107,153
220	8.661	67,743	44,201	85,055	132,602
240	9.449	85,277	60,273	123,717	160,729
260	10.236	104,696	78,355	140,728	182,829
280	11.024	129,013	90,252	168,979	263,439
300	11.811	155,501	108,786	181,049	313,618
320	12.598	214,016	150,537	257,492	351,252
340	13.386	227,403	186,603	273,586	390,977
360	14.173	299,461	210,810	360,590	491,890
380	14.961	316,110	259,609	380,623	543,942
400	15.748	332,739	273,272	440,721	624,622
420	16.535			504,826	655,853
440	17.323			528,865	687,084
460	18.11			552,904	718,316
480	18.898			600,983	874,471
500	19.685			626,024	910,907
520	20.472			729,193	1,015,011
540	21.26			757,239	1,054,050
560	22.047			841,376	1,165,962
580	22.835			871,425	1,207,603
600	23.622			901,475	1,288,283

Shaft diameters below 8 inch are usually available in nominal inch sizes.

Note: This is a partial list of available series and sizes.

Allowable Bending Moment as a percentage of Torque rating of the locking assembly.

Locking Assembly	Allowable Bending Moment
B400	22%
B106	28%
B115	32%
B112	35%



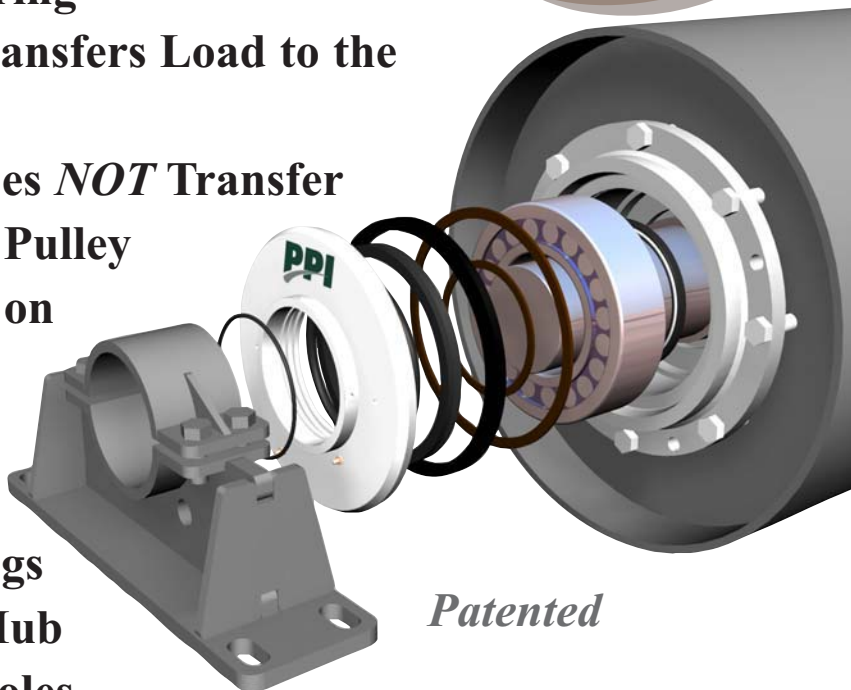
Other sizes are available upon request
Subject to change without notice

The Next Generation of Conveyor Pulleys is Here!

PPI Static Shaft Pulley!



- Static Shaft for Increased Reliability
- Standard Spherical Bearing
- Self-aligning Bearing Transfers Load to the Shaft
- Self-aligning Bearing does *NOT* Transfer Bending Load into the Pulley
- Reduces Bending Stress on Critical Weld Joints
- Bearing is Protected by Dual Contact Seals
- Stationary Grease Fittings
- Maintenance Friendly Hub Bolts with Back Out Holes
- Welded Steel Mounting Blocks
- Standard Mounting Pattern, for Drop-In Replacement
- Available in various pulley styles for non-drive, non-brake, non-backstop pulley locations
- For other styles contact your local PPI Rep



Patented

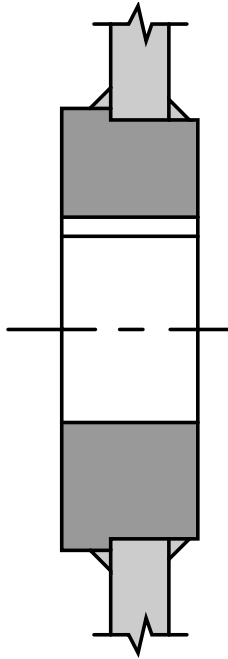


SIZE	BORE	SIZE	BORE
15	2.953	34	6.693
20	3.937	36	7.087
22	4.331	38	7.48
24	4.724	44	8.661
26	5.118	48	9.449
28	5.512	52	10.236
30	5.906	56	11.024
32	6.299	60	11.811

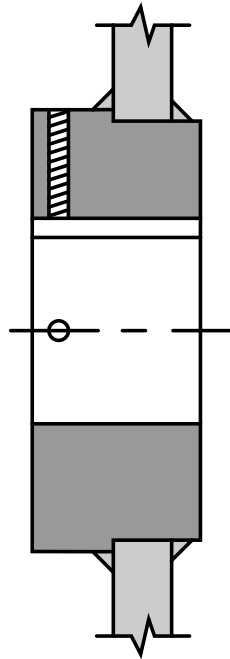
For other sizes contact your local PPI Rep

Other Hub Styles

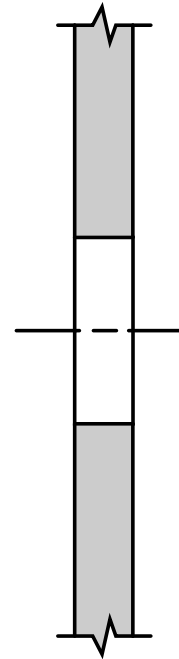
PPI offers several other styles to fit your particular needs. These include, but are not limited to, Press Fit (Interference fit with keyway), Fixed Bore (Solid Bore, Clearance fit with keyway and setscrews), and Weld-in (no hub, welded to the shaft). For more information on these and other means of attaching pulleys to a shaft, contact your local PPI representative.



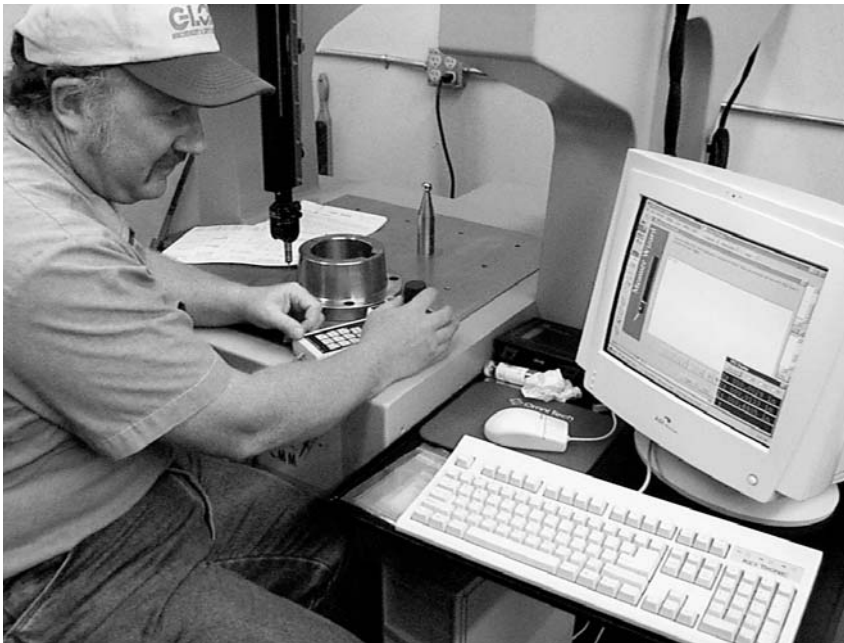
PRESS
FIT



FIXED BORE
(SOLID BORE)



WELD-IN



PPI uses the latest technology in production and in quality control. Shown is just one of our CMM machines that assures a Precision Product!



For operation & maintenance manuals, check out our website at <http://www.ppipella.com>, just click on Catalogs.

Shafting



PPI Conveyor Pulley Shafting is a vital part of the total pulley assembly. Standard PPI Shafting is AISI 1045, which represents the higher carbon range in the open hearth carbon group. Excluding alloy steel, higher carbon content in a AISI 1045 results in one of the strongest steels in the carbon range and machines to a smooth finish. Normally, PPI uses T&P for shafting up through 5-15/16 inches. While, Hot Rolled and/or Forged shafting (depending upon size, availability, and specifications) is used above a 6 inch diameter.

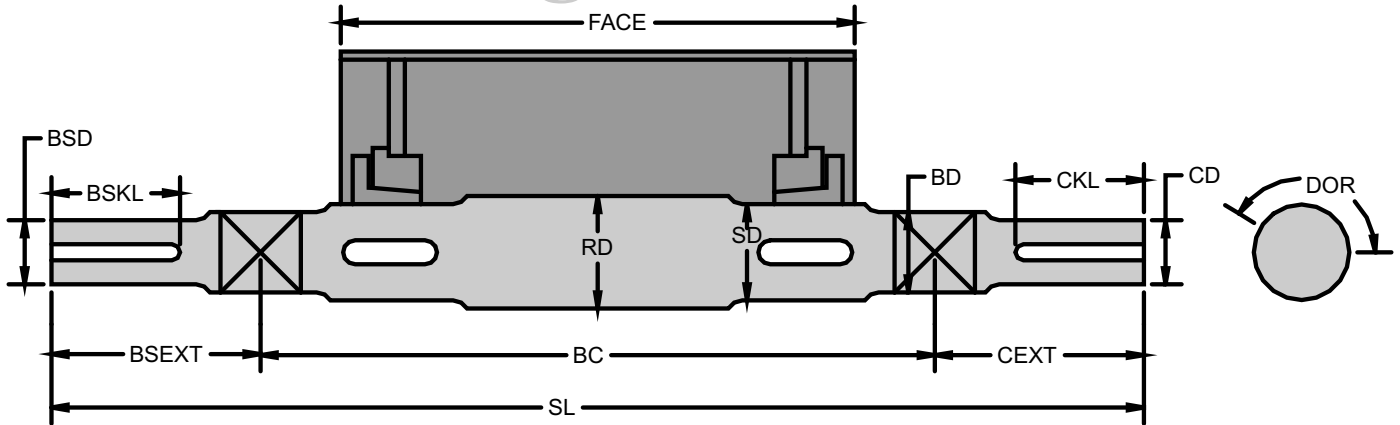
Other materials, including 1018 (used for welding compatibility), 4140, and 4340 (normally used for high stressed areas, such as drive extensions) are available upon request.

Shafting can be keyed or journaled to meet any specification.

PPI shafting capabilities cover the broad spectrum of our customers, from unit handling to some of the largest pulley shafts in the world, PPI can handle your needs.



Shafting Order Detail



Pulley ID	Identification				
QTY	Quantity				
OD	Outside Diameter without lagging				
Face	Face Width				
Style	CF / FF				
Lagging	Type				
Type	Wing/Drum				
SL	Shaft Len				
RD	Rough Dia				
SD	Shaft Dia				
BD	Bearing Dia				
BC	Bearing Cen				
Drive?	If not, skip rest				
CD	Coupling Dia				
CEXT	Extension				
CKL	Key Length				
CKW	Key Size				
BSD	BackStop Dia				
BSEXT	Extension				
BSKL	Key Length				
BSKW	Key Size				
DOR	Dir of Rotation				

Pulley & Shaft Engineering Information

To determine what level of service you need, use P10™

(Note: P10™ is Precision Pulley & Idler's Life Rating system that will help determine what level of pulley is appropriate for your application. P10™ or fatigue life at 90% reliability is the usual basis for pulley selection.)

- A. How many shifts (8 hour) a day? (round up) _____
- B. Belt speed? (1 for 1-100 FPM, 2 for 101-200, 3 for 201-300, etc) _____
- C. How many months a year? (round up) _____
- D. How many years' service? (round up) _____
- E. Diameter Factor (2.0 for 8", 1.5 for 10-12", 1.0 for 14-24", 0.5 for 30" and up) _____
- F. Take-Up? (1 – Gravity, 1.3 – Gravity with wire ropes, 1.5 – Screw, 2 – none) _____
(Hydraulic – 1.3 for Active, 1.5 for Passive)

P10™ = (A)_____ X (B)_____ X (C)_____ X (D)_____ X (E)_____ X (F)_____ = _____

- Results: (100 or less) -----XPD with Table 5
- (101 – 400) -----XPD with Table 6, or MDD with Table 5
- (401 – 2000) -----MDD with Table 6
- (2001 and up) -----Consult PPI Engineering

For a more detailed analysis and/or information on pulley life call PPI

(NOTE: Precision Pulley & Idler does not know what specifications others use in their pulleys, and no assumption can be made or given that P10™ will work with anything other than a Precision Pulley.)

Use P10™ with the instructions below to size your pulley.

1. Determine effective tension that is supplied by the motor. $T_e = HP * 33,000 / FPM$.
2. Determine slack side tension. Using the K-factor from Table 1, multiply the effective tension (T_e) by K to determine the slack side tension $T_2 = T_e * K$. Note: This is the minimum T_2 tension. You may have add an additional safety factor depending upon your application or how you tension your belt, i.e. wire rope/screw/etc.
3. Determine T_1 or tight side tension. $T_1 = T_2 + T_e$ (for dual drives, add the primary T_e to the intermediate tension).
4. Determine the angle of wrap for each pulley. If unknown, use 180 for Tail, Take-up, and un-snubbed drives. Use 210 for snubbed drives, 30 for snubs, and 90 + the incline angle for bend pulleys
5. To determine the resultant load on non-drive pulleys, multiply the belt tension at that pulley by the Resultant load factor in Table 2 for that pulley wrap. Then $R = T_2 * \text{Factor}$.
6. For Drive pulleys, divide the T_1 by T_2 . Use this ratio and Table 4 to determine the Drive pulley Resultant load factor. Then $R = T_2 * \text{Factor}$
7. Determine Face Width. For belts up through 42 inches add 2 inches to the belt width. For belts 48-60 add a minimum of 3 inches to the belt width.
8. Determine the shaft size by using Table 5, or table 6. Subtract the Face Width from the Bearing Centers ($BC - F$). Follow the proper pulley face width column and across from the bearing center minus face value (interpolate if correct amount is not listed) until the load rating is greater than the resultant load determine above. Follow this procedure for each pulley.
9. For pulley diameters, check with your belt manufacturer. The belt requirements are the single largest consideration when choosing a pulley diameter.
10. Divide the tension at each pulley by the belt width to get the PIW for each pulley, (for the drive use T_1) and check this against Table 3, XPD & MDD. If the PIW exceeds the rating for a XPD consider the MDD or increase the diameter. If this results in a pulley that does not fit into your conveyor, please contact PPI Engineering.

Table 1 - "K" Factor

Drive Wrap	Automatic T-U			Manual/Screw T-U		
	Bare	Lagged	Ceramic	Bare	Lagged	Ceramic
180	0.84	0.5	0.26	1.2	0.8	0.5
190	0.77	0.46	0.24	1.1	0.8	0.5
200	0.72	0.42	0.21	1.1	0.7	0.5
210	0.67	0.38	0.19	1	0.7	0.4
220	0.62	0.35	0.17	0.9	0.6	0.4
230	0.58	0.33	0.16	0.9	0.6	0.4
240	0.54	0.3	0.14	0.8	0.6	0.4

Table 2 - Non-Drive Load

Angle of wrap	Factor	Angle of wrap	Factor
15	0.261	130	1.813
20	0.347	135	1.848
25	0.433	140	1.879
30	0.518	145	1.907
35	0.601	150	1.932
40	0.684	155	1.953
45	0.765	160	1.97
50	0.845	165	1.983
55	0.923	170	1.992
60	1	175	1.998
65	1.075	180	2
70	1.147	185	1.998
75	1.218	190	1.992
80	1.286	195	1.983
85	1.351	200	1.97
90	1.414	205	1.953
95	1.475	210	1.932
100	1.532	215	1.907
105	1.587	220	1.879
110	1.638	225	1.848
115	1.687	230	1.813
120	1.732	235	1.774
125	1.774	240	1.732

Table 3 - PIW Rating

OD	Angle of Wrap (XPD)					Angle of Wrap (MDD)
	0-55	60-65	70-100	105-210	215-240	0-240
8	43	57	64	85	64	85
10	53	70	79	105	79	105
12	63	83	94	125	94	125
14	80	107	120	160	120	160
16	98	130	146	195	146	195
18	115	153	173	230	173	230
20	138	183	206	275	206	275
24	173	230	259	345	259	345
30	230	307	345	460	345	460
36	288	383	431	575	431	575
42	345	460	518	690	518	690
48	403	537	604	805	604	805
54	460	613	690	920	690	920
60	518	690	776	1035	776	1035

Table 4 - Drive Resultant Load Factor

T1/T2	Angle of Wrap												
	180	185	190	195	200	205	210	215	220	225	230	235	240
1.8	2.8	2.798	2.79	2.778	2.761	2.739	2.713	2.681	2.645	2.605	2.56	2.511	2.458
1.9	2.9	2.898	2.89	2.878	2.86	2.838	2.811	2.779	2.742	2.701	2.656	2.606	2.551
2	3	2.997	2.99	2.977	2.96	2.937	2.909	2.877	2.84	2.798	2.752	2.701	2.646
2.1	3.1	3.097	3.09	3.077	3.059	3.036	3.008	2.975	2.937	2.895	2.848	2.796	2.74
2.2	3.2	3.197	3.19	3.176	3.158	3.135	3.107	3.073	3.035	2.992	2.944	2.892	2.835
2.3	3.3	3.297	3.289	3.276	3.258	3.234	3.205	3.171	3.133	3.089	3.041	2.988	2.931
2.4	3.4	3.397	3.389	3.376	3.357	3.333	3.304	3.27	3.231	3.187	3.138	3.084	3.027
2.5	3.5	3.497	3.489	3.476	3.457	3.432	3.403	3.368	3.329	3.284	3.235	3.181	3.122
2.6	3.6	3.597	3.589	3.575	3.556	3.532	3.502	3.467	3.427	3.382	3.332	3.278	3.219
2.7	3.7	3.697	3.689	3.675	3.656	3.631	3.601	3.566	3.525	3.48	3.429	3.375	3.315
2.8	3.8	3.797	3.789	3.775	3.755	3.73	3.7	3.664	3.624	3.578	3.527	3.472	3.412
2.9	3.9	3.897	3.889	3.875	3.855	3.83	3.799	3.763	3.722	3.676	3.625	3.569	3.509
3	4	3.997	3.989	3.974	3.955	3.929	3.898	3.862	3.821	3.774	3.722	3.666	3.606
3.1	4.1	4.097	4.088	4.074	4.054	4.029	3.997	3.961	3.919	3.872	3.82	3.764	3.703
3.2	4.2	4.197	4.188	4.174	4.154	4.128	4.097	4.06	4.018	3.971	3.918	3.861	3.8
3.3	4.3	4.297	4.288	4.274	4.253	4.227	4.196	4.159	4.117	4.069	4.017	3.959	3.897
3.4	4.4	4.397	4.388	4.374	4.353	4.327	4.295	4.258	4.215	4.168	4.115	4.057	3.995
3.5	4.5	4.497	4.488	4.473	4.453	4.427	4.395	4.357	4.314	4.266	4.213	4.155	4.093
3.6	4.6	4.597	4.588	4.573	4.553	4.526	4.494	4.456	4.413	4.365	4.311	4.253	4.19
3.7	4.7	4.697	4.688	4.673	4.652	4.626	4.593	4.555	4.512	4.463	4.41	4.351	4.288
3.8	4.8	4.797	4.788	4.773	4.752	4.725	4.693	4.655	4.611	4.562	4.508	4.45	4.386
3.9	4.9	4.897	4.888	4.873	4.852	4.825	4.792	4.754	4.71	4.661	4.607	4.548	4.484
4	5	4.997	4.988	4.973	4.952	4.924	4.892	4.853	4.809	4.76	4.706	4.646	4.583
4.1	5.1	5.097	5.088	5.073	5.051	5.024	4.991	4.952	4.908	4.859	4.804	4.745	4.681
4.2	5.2	5.197	5.188	5.172	5.151	5.124	5.091	5.052	5.007	4.958	4.903	4.843	4.779
4.3	5.3	5.297	5.288	5.272	5.251	5.223	5.19	5.151	5.107	5.057	5.002	4.942	4.877
4.4	5.4	5.397	5.388	5.372	5.351	5.323	5.29	5.251	5.206	5.156	5.101	5.041	4.976

Table 5

Resultant Loads for Pulleys, based on 8000 psi shaft stress and 0.0023 in/in shaft slope

SHAFT DIAMETER	BC-F	FACE WIDTH										
		12	16	20	26	32	38	44	51	57	63	66
1 3/16	2	1,000	780	590	440	350	290	240	210	180	170	160
	6	570	440	340	250	200	160	140	120	100	90	90
	10	400	310	230	170	140	110	100	80	70	70	60
	14	300	240	180	130	110	90	70	60	60	50	50
1 7/16	3	1,500	1,400	1,100	790	620	510	440	370	330	300	290
	6	1,000	950	720	530	420	350	300	250	220	200	190
	10	700	660	500	370	290	240	210	180	160	140	130
	14	540	510	390	290	230	190	160	140	120	110	100
1 11/16	3	2,400		2,000	1,500	1,200	980	830	710	630	570	540
	6	1,600		1,400	1,000	800	660	560	480	430	380	370
	10	1,100		960	700	560	460	390	340	300	270	260
	16	780		660	490	380	320	270	230	210	180	180
1 15/16	3	3,700		3,500	2,600	2,100	1,700	1,400	1,200	1,100	990	940
	6	2,500		2,400	1,800	1,400	1,100	980	840	740	670	640
	10	1,700		1,700	1,200	970	800	680	580	520	470	440
	16	1,200		1,100	840	670	550	470	400	360	320	310
2 3/16	3	5,300			4,200	3,300	2,800	2,400	2,000	1,800	1,600	1,500
	8	2,900			2,300	1,900	1,500	1,300	1,100	1,000	900	800
	12	2,200			1,700	1,400	1,100	1,000	800	700	700	600
	18	1,500			1,200	1,000	800	700	600	500	500	400
2 7/16	4	6,300			5,600	4,400	3,700	3,100	2,700	2,400	2,100	2,000
	8	4,000			3,600	2,900	2,400	2,000	1,700	1,500	1,400	1,300
	12	3,000			2,700	2,100	1,700	1,500	1,300	1,100	1,000	1,000
	18	2,100			1,900	1,500	1,300	1,100	900	800	700	700
2 11/16	4	8,100				6,400	5,300	4,500	3,800	3,400	3,100	2,900
	8	5,300				4,200	3,400	2,900	2,500	2,200	2,000	1,900
	12	3,900				3,100	2,600	2,200	1,900	1,600	1,500	1,400
	18	2,800				2,200	1,800	1,600	1,300	1,200	1,100	1,000
2 15/16	4	10,600				9,100	7,500	6,400	5,500	4,900	4,400	4,200
	8	6,900				6,000	4,900	4,200	3,600	3,200	2,900	2,700
	14	4,600				3,900	3,200	2,800	2,300	2,100	1,900	1,800
	20	3,400				2,900	2,400	2,000	1,700	1,600	1,400	1,300
3 7/16	6	11,600					10,100	8,500	7,200	6,400	5,700	5,500
	10	8,500					7,400	6,300	5,300	4,700	4,200	4,000
	14	6,700					5,800	4,900	4,200	3,700	3,300	3,200
	20	5,100					4,400	3,800	3,200	2,800	2,500	2,400
3 15/16	6	16,700						14,200	12,000	10,600	9,500	9,000
	10	12,400						10,600	8,900	7,900	7,100	6,700
	14	9,800						8,400	7,100	6,300	5,600	5,300
	20	7,500						6,400	5,400	4,800	4,300	4,100
4 7/16	8	19,600						19,100	16,100	14,200	12,700	12,100
	12	15,300						14,800	12,500	11,100	9,900	9,400
	16	12,500						12,100	10,300	9,100	8,100	7,700
	22	9,800						9,500	8,100	7,100	6,400	6,000

Table 5

Resultant Loads for Pulleys, based on 8000 psi shaft stress and 0.0023 in/in shaft slope

SHAFT DIAMETER	BC-F	Face Width										
		16	20	26	32	38	44	51	57	63	66	
4 15/16	8	25,200					23,600	20,800	18,500	17,600		
	12	19,900					18,600	16,400	14,600	13,900		
	16	16,400					15,400	13,500	12,100	11,500		
	22	13,000					12,200	10,700	9,600	9,100		
5 7/16	10	26,600						25,100	22,300	21,100		
	14	22,000						20,700	18,400	17,500		
	18	18,700						17,700	15,700	14,900		
	24	15,300						14,500	12,800	12,200		
6	10	35,700							33,100	31,300		
	14	29,500							27,300	25,900		
	18	25,100							23,300	22,100		
	24	20,600							19,000	18,000		
6 1/2	12	39,200									38,000	
	16	33,200									32,100	
	20	28,800									27,800	
	26	24,000									23,200	
7	12	49,000										
	16	41,400										
	20	35,900										
	26	29,900										
7 1/2	14	54,100										
	18	46,500										
	22	40,800										
	28	34,400										
8	14	65,700										
	18	56,400										
	22	49,500										
	28	41,800										
8 1/2	16	67,700										
	20	59,400										
	24	52,900										
	30	45,400										
9	16	80,400										
	20	70,500										
	26	59,500										
	32	51,500										
9 1/2	16	94,500										
	22	78,100										
	28	66,500										
	34	57,900										
10	16	110,000										
	22	91,100										
	28	77,600										
	36	64,800										

Table 6

Resultant Loads for Pulleys, based on 6000 psi shaft stress and 0.0015 in/in shaft slope

		FACE WIDTH										
SHAFT DIAMETER	BC-F	12	16	20	26	32	38	44	51	57	63	66
1 3/16	2	740	510	390	280	230	190	160	140	120	110	100
	6	420	290	220	160	130	110	90	80	70	60	60
	10	290	200	150	110	90	70	60	50	50	40	40
	14	230	150	120	90	70	60	50	40	40	30	30
1 7/16	3	1,100	920	700	510	410	340	290	240	220	200	190
	6	760	620	470	350	270	230	190	170	150	130	130
	10	530	430	330	240	190	160	140	120	100	90	90
	14	410	330	250	190	150	120	100	90	80	70	70
1 11/16	3	1,800	1,700	1,300	970	770	640	540	460	410	370	350
	6	1,200	1,170	890	660	520	430	370	310	280	250	240
	10	850	820	620	460	360	300	260	220	190	170	170
	16	590	560	430	320	250	210	180	150	130	120	110
1 15/16	3	2,700		2,300	1,700	1,300	1,100	950	810	720	640	610
	6	1,900		1,600	1,100	910	750	640	550	480	440	410
	10	1,300		1,100	800	630	520	450	380	340	300	290
	16	890		750	550	430	360	310	260	230	210	200
2 3/16	3	3,900		3,700	2,800	2,200	1,800	1,500	1,300	1,200	1,000	1,000
	8	2,200		2,100	1,500	1,200	1,000	850	730	650	580	550
	12	1,600		1,500	1,100	890	740	630	540	480	430	410
	18	1,200		1,100	810	640	530	450	390	340	310	290
2 7/16	4	4,700			3,700	2,900	2,400	2,000	1,700	1,500	1,400	1,300
	8	3,000			2,400	1,900	1,500	1,300	1,100	1,000	900	850
	12	2,200			1,700	1,400	1,100	970	830	740	660	630
	18	1,600			1,200	990	820	700	590	530	470	450
2 11/16	4	6,100			5,300	4,200	3,400	2,900	2,500	2,200	2,000	1,900
	8	4,000			3,400	2,700	2,200	1,900	1,600	1,400	1,300	1,200
	12	3,000			2,600	2,000	1,700	1,400	1,200	1,100	970	920
	18	2,100			1,800	1,500	1,200	1,000	870	770	700	660
2 15/16	4	8,000			7,500	6,000	4,900	4,200	3,600	3,200	2,900	2,700
	8	5,200			4,900	3,900	3,200	2,700	2,300	2,100	1,900	1,800
	14	3,400			3,200	2,600	2,100	1,800	1,500	1,400	1,200	1,200
	20	2,500			2,400	1,900	1,600	1,300	1,100	1,000	910	870
3 7/16	6	8,700				8,000	6,600	5,600	4,700	4,200	3,700	3,600
	10	6,400				5,900	4,800	4,100	3,500	3,100	2,700	2,600
	14	5,000				4,600	3,800	3,200	2,700	2,400	2,200	2,100
	20	3,800				3,500	2,900	2,400	2,100	1,800	1,600	1,600
3 15/16	6	12,500					11,000	9,300	7,800	6,900	6,200	5,900
	10	9,300					8,200	6,900	5,800	5,100	4,600	4,400
	14	7,400					6,500	5,500	4,600	4,100	3,700	3,500
	20	5,600					5,000	4,200	3,500	3,100	2,800	2,700
4 7/16	8	14,700						12,500	10,500	9,300	8,300	7,900
	12	11,400						9,700	8,200	7,200	6,500	6,100
	16	9,400						7,900	6,700	5,900	5,300	5,000
	22	7,400						6,200	5,300	4,600	4,200	3,900

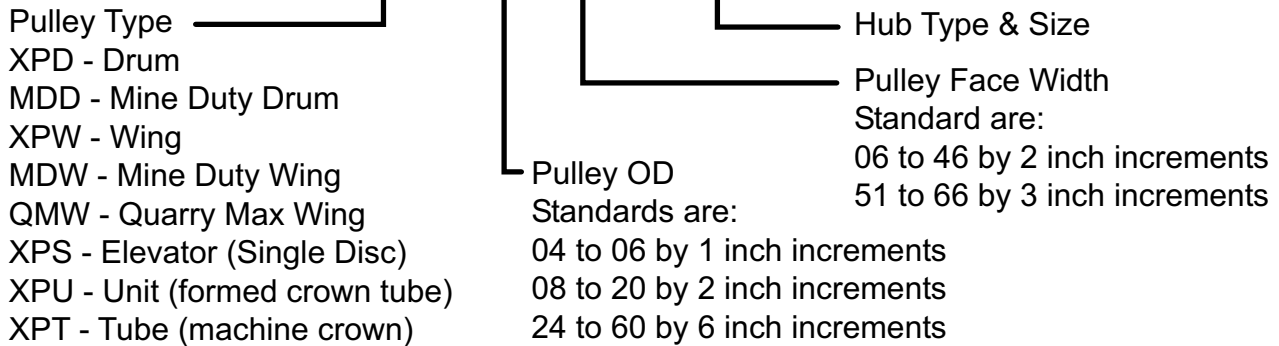
Table 6

Resultant Loads for Pulleys, based on 6000 psi shaft stress and 0.0015 in/in shaft slope

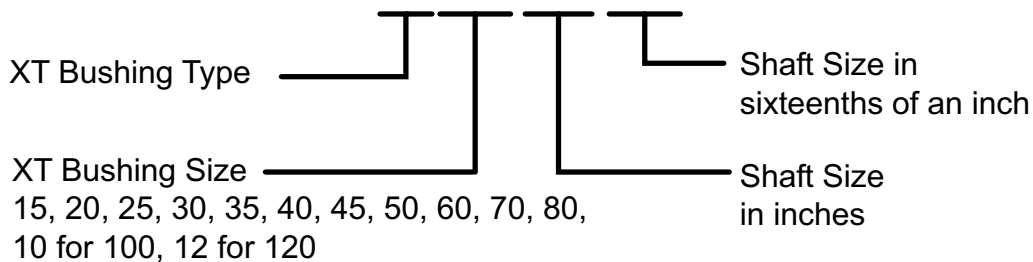
SHAFT DIAMETER	BC-F	Face Width									
		16	20	26	32	38	44	51	57	63	66
4 15/16	8	18,900					18,300	15,400	13,500	12,100	11,500
	12	14,900					14,400	12,100	10,700	9,500	9,100
	16	12,300					11,900	10,000	8,800	7,900	7,500
	22	9,800					9,500	8,000	7,000	6,300	5,900
5 7/16	10	19,900					18,700	16,400	14,600	13,800	
	14	16,500					15,500	13,500	12,000	11,400	
	18	14,000					13,200	11,500	10,200	9,700	
	24	11,500					10,800	9,400	8,400	7,900	
6	10	26,800					24,300	21,600	20,400		
	14	22,100					20,100	17,800	16,900		
	18	18,800					17,100	15,200	14,400		
	24	15,400					14,000	12,400	11,800		
6 1/2	12	29,400					26,200	24,800			
	16	24,900					22,100	20,900			
	20	21,600					19,200	18,200			
	26	18,000					16,000	15,100			
7	12	36,700					35,200	33,300			
	16	31,100					29,800	28,200			
	20	26,900					25,800	24,400			
	26	22,400					21,500	20,300			
7 1/2	14	40,600					39,700				
	18	34,900					34,200				
	22	30,600					30,000				
	28	25,800					25,300				
8	14	49,200									
	18	42,300									
	22	37,100									
	28	31,300									
8 1/2	16	50,800									
	20	44,500									
	24	39,600									
	30	34,000									
9	16	60,300									
	20	52,900									
	26	44,600									
	32	38,600									
9 1/2	16	70,900									
	22	58,600									
	28	49,900									
	34	43,400									
10	16	82,700									
	22	68,300									
	28	58,200									
	36	48,600									

Part Numbering

XPD1226XT30



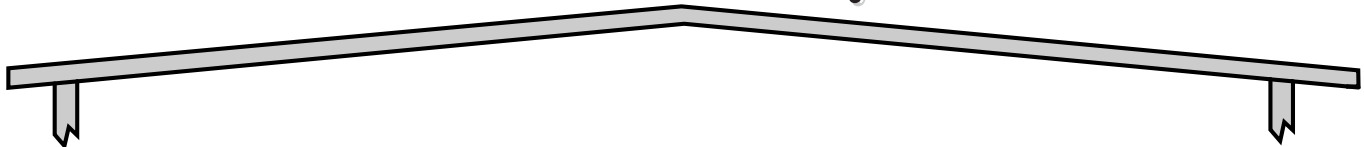
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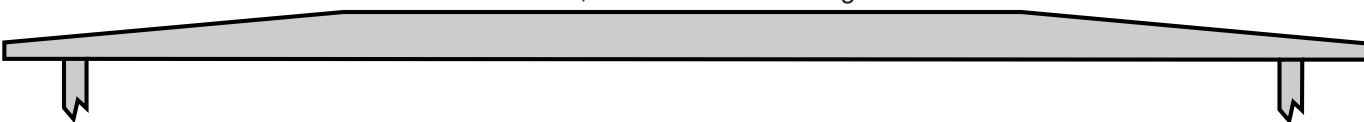


Crown Face Styles



Standard Crown Face - PPI's standard face style is a full crown where the OD increases by 1/8" per foot from the edge to the center of the pulley.

High Crown - Used on narrow face widths, i.e. elevator pulleys, it is a full crown (similar to standard crown above) where the rate of crown is 50% to 100% more, for better belt tracking.



Edge or End Crown - This is a partial crown, commonly used on tube pulleys, where the pulley crown is machined only on the edges at the standard crown rate. The center of the pulley is left unmachined.

Trap or Trapezoidal Crown - This is a partial crown, also used on tube pulleys. However, the entire face of the pulley is machined for better TIR throughout before crowning the ends at the standard crown rate.

PRECISION PULLEY & IDLER TERMS & CONDITIONS

- WARRANTY:** **Standard Product:** Precision warrants, to the original purchaser only, that the standard products it manufactures are free from defects in materials and workmanship, when used under normal load and operating conditions and maintained properly. The duration of this warranty is 12 months from the date of delivery. During this 12 month period, if the Purchaser discovers that the product is defective in materials or workmanship, it must promptly notify Precision in writing. Any such notification must be received no later than 13 months from the date of delivery. Within a reasonable period after timely notification, Precision at its option, will (i) correct any defect in materials or workmanship by repair or replacement of the defective product or (ii) refund the purchase price. These remedies are the Purchaser's EXCLUSIVE remedies for the breach of the foregoing warranty.
- Special Order Pulleys:** Precision warrants that the non-standard, special order pulleys bought by the Purchaser will perform in accordance with the representations and/or specifications provided to Precision and be free from defects in materials and workmanship, when used under normal load and operating conditions and maintained properly. The duration of this warranty is 12 months from the date of delivery or 2000 hours of service, whichever occurs first. The Purchaser shall promptly report to Precision any failure of the non-standard, special order products to conform to said representations and specifications or any defect in materials or workmanship. Any such notification must be received no later than 13 months from the date of delivery. Within a reasonable period after timely notification, Precision at its option will (i) correct any failure of the product to conform to the said representations and specifications by repair or replacement or (ii) make an equitable price adjustment based upon the performance of the product, not to exceed the purchase price. These remedies are the Purchaser's EXCLUSIVE remedies for the breach of the foregoing warranty. **ALL PRECISION PULLEY & IDLER ENGINEERED CLASS PULLEYS CARRY A TWO YEAR WARRANTY.**
- Precision shall have the right to require the Purchaser to deliver the allegedly defective product to it for testing, repair, or replacement. Precision shall not be responsible for any expenses associated with the removal of the product from its application for such delivery. All expenses for in-coming and out-going freight shall be borne by the Purchaser.
- Warranties shall not apply to any Product which has been subject to misuse, misapplication (including, but not limited to loading information as provided in Precision's Catalog(s)), neglect (including, but not limited to improper maintenance and storage), accident, improper installation, modification (including but not limited to use of unauthorized parts or attachments) adjustment, repair, or lubrication. Misuse also includes, but is not limited to, deterioration in the Product or part caused by chemical action or wear caused by the presence of abrasive materials, and improper lubrication. Identifiable items manufactured by others but installed in or affixed to our Products are not warranted by us, but bear only those warranties, express or implied, give by the manufacturer of that item, if any. Precision Pulley & Idler cannot be held responsible for performance of lubricants. Lubricant specifications, performance, and lubricant guarantees are the responsibility of the lubricant manufacturer. Responsibility for system design and procedures to insure proper storage, installation, operation, maintenance, and application of products within their published specifications, including but not limited to, analysis of loads created by vibrations within the system regardless of how induced, shall rest solely with the customer.
- DISCLAIMER OF WARRANTIES:** **THE FOREGOING WARRANTIES ARE IN LIEU OF ALL OTHER WARRANTIES, EITHER EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR PARTICULAR PURPOSE.**
- LIMITATION OF WARRANTIES:** Precision's liability on any claim of any kind whatsoever shall in no case exceed the purchase price of the product(s) which gave rise to the claim. The Purchaser shall be responsible for any and all expenses, losses, or delays incurred in removing any defective part from the Purchaser's application of that product. **IN NO EVENT SHALL PRECISION BE LIABLE FOR ANY SPECIAL, INCIDENTAL, CONSEQUENTIAL, OR PUNITIVE DAMAGES BASED UPON BREACH OF WARRANTY, BREACH OF CONTRACT, NEGLIGENCE, STRICT TORT OR ANY OTHER LEGAL THEORY.**
- RETURNS:** Precision products may not be returned without written authorization. Any and all expenses incurred in the return of the products shall be borne by the Purchaser.
- LIMITATION OF ACTIONS:** Any claim for breach of warranty must be presented within 13 months following delivery of the products. Any action for breach of warranty must be commenced within 24 months following delivery of the products.
- PRICES:** All prices are subject to change without notice. All prices are exclusive of any local, state, or federal taxes. Where local, state, or federal taxes are applicable, such taxes shall be paid by the Purchaser.
- TERMS:** Except as otherwise provided on the invoice, terms are cash net 30 days from the date of the invoice. Any applicable discount will be so listed on the invoice. A minimum order of \$50.00 is required.
- ACCEPTANCE:** All orders are accepted upon the condition that the Purchaser agrees to be bound by the terms and conditions of sale contained herein. Any terms and conditions in the Purchaser's order which deletes from, alters, or adds to the terms and conditions herein will not be binding upon Precision unless such terms and conditions are expressly agreed to in writing by Precision.
- SHIPPING:** All shipments will be shipped F.O.B. Pella, Iowa, freight collect. Precision's responsibility for damage, breakage, or loss ceases upon delivery of the products to the freight carrier. Any claims due to damage, breakage, or loss in this regard should be made to the freight carrier.
- CANCELLATION:** In the event of cancellation of an order, the Purchaser shall be liable for the reasonable costs and expenses incurred by Precision prior to notice of cancellation of the order.
- SAFETY DEVICES:** Precision products are provided with only those safety devices identified on the invoice. It is the responsibility of the Purchaser to furnish appropriate guards for machinery parts in compliance with the applicable OSHA and state regulations, as well as any other safety devices desired by Purchaser.
- WAIVER:** No representative of ours has any authority to waive, alter, vary, or add to the terms hereof without prior approval in writing to our customer, signed by an officer of our company. It is expressly agreed that the entire warranty given to the customer is embodied in this writing, that this writing constitutes the final expression of the parties agreement with respect to warranties, and that it is a complete and exclusive statement of the terms of the warranty.

Engineering Data to design a Conveyor Pulley, Shaft & Bearing

Company: _____ Contact _____

Address: _____ Phone # _____

Project _____

Conveyor Data:

Belt: Fabric _____ Steel _____ Other _____ Width _____

Take-Up: Gravity _____ Gravity wire rope _____ Hydraulic _____ Screw: _____

Drive: Motor HP _____ Speed _____ FPM Capacity _____ TPH


Layout: Length _____ ft Lift _____ ft Material: _____

Service Life: # Shifts/day _____ # Months/year _____ Pulley Life _____ yrs

Quote: Brgs? type? _____ B10 Life _____ hrs TU Frame? Type? _____

Idlers? _____ Impact System? _____ EZ Slider? _____ Smart Roll? _____

Conveyor ID						
Pulley Location						
Quantity						
Pulley Type						
Outside Diameter (OD) without lagging						
Face Width						
Crown or Flat Face						
Lagging thickness						
Lagging groove						
Lagging Specs						
Shaft Diameter @ Hub						
Shaft Diameter @ Brg						
Shaft Diameter @ Drive						
# KW						
Shaft Length						
Bearing Centers (BC)						
Wrap (Arc of Contact)						
T1						
T2						

	Corporate Office	West Coast	SouthWest	Northeast	Southeast
	PO Box 287	Service Center	Service Center	Service Center	Service Center
	Pella, IA 50219	Sacramento, CA	Fort Worth, TX	Lewisberry, PA	Cleveland, TN
	www.ppipella.com	800.821.9798	800.247.1228	800.247.1228	800.247.1228
	800.247.1228	800.247.1228	800.247.1228	800.247.1228	
	641.628.3115	800.821.9798	800.247.1228	800.247.1228	
	641.628.3658	800.821.9798	800.247.1228	800.247.1228	
	641.628.3658	916.386.0545	641.628.3658	641.628.3658	