Complete
Power Transmission
Solutions

TIMING PULLEY

Since its inception in 1952, MSB Power Transmission has been synonymous with Mechanical Power Transmission Products. MSB Power Transmission is a leading manufacturer and a Global supplier of Power Transmission Products.

The Company has evolved over time to include an exhaustive range of products in the Power Transmission Industry.

With commitment to quality and relentless service, MSB Power Transmission has established itself as one of the global leaders in the market for power transmission products.

Our product knowledge and expertise has been critical in our growth and has helped us in our ability to metamorphosize with growing trends and products in the industry.

With a rich experience and industry specialisation, we have become pioneers in providing customised solutions to our clients.

Our extensive product manufacturing knowledge and our pursuit of synergies are the keys to providing the highest standards to our customers.

Our products stand for quality, performance, reliability, efficiency and economy ensuring that our customers are sent products conforming to the highest standards in the industry.

Product Range

Taper Lock Pulley

Timing Pulley

QD Pulley

Taper Grid Coupling

Gear Coupling

Pin Bush Coupling

Sprocket

Tyre Coupling

Jaw Coupling

HRC Coupling

Resilient Coupling

Nylon Coupling

MSB Pvt. Limited, is a quality manufacturer of Timing pulleys, Multi Ribbed Poly-v Pulleys, Sprockets, Clamping Plates, Synchronizing Shafts. These products are manufactured from high grade materials and precision built as per guidance by MULCO Group of Europe.

TIMING PULLEYS & SYNCHRONISING SHAFT

The performance & life characteristics of Timing belt is considerably influenced by material quality and machining of synchronous pulley & shafts with which belt get engaged and run.

MSB offers a wide range of finished precision pulleys that perfectly meshed with timing belts to meet the highest customer expectations. The perfect meshing of timing belt and pulley teeth is crucial for satisfactory performance and long service life of any belt drive. Our state-of-art pulley manufacture line allows for very precise machining standards, leading to superior product quality and quick product availability. The production of MSB synchronous pulleys is subject to a constant quality control at all stages. A perfect meshing timing pulley coming out of the overall system is guaranteed by the function defined control of all geometrical data, the tooth gap geometry, the shape and position as well as fine tuning of close tolerances.

MSB pulleys are available with through bore or the Taper Lock fixing system for ultimate versatility. The standard range of MSB pulleys covers complete Imperial and Metric range, as well as the latest Synchrochain to match following pitch profiles:

- CLASSICAL: MXL, XXL, XL, L, H, XH, XXH,
- HTD/ STD: 3M, 5M, 8M, 14M, 20M, S3M, S4.5M, S5M, S8M, S14M
- T/ AT/ ATN-series: T2, T2.5, T5, T10, T20, AT3, AT5, AT10, AT(S)15, AT20, ATN10, ATN12.7, ATN20,
- SYNCHROCHAIN: CTD-8M, CTD-14M (Other pitches on request)

The material and the dimensions of the synchronizing pulleys, i.e. number of teeth, pulley width, bore holes and arrangement of flanges are based on application and stated by the end customer and machine designer. Made-to-order pulleys are available with standard tooth gap and with reduced or zero (0) backlash tooth configuration. The pulleys can be flanged as required by the application. Mounting is achieved by flaring, rolling or bolting the flange, depending on the tooth profile and number of teeth used.

MATERIALS: Depending on drive application & environment, MSB pulleys are available in *ALLUMINIUM, *STEEL, *STAINLESS STEEL, *NYLON or other plastics materials. For normal requirements, the light metal alloy **AlCuMgPbF34** (material number 3.1645) is preferred, according to European Directive AW-2007. For more load handling requirement of the pulley, various type of steel is recommended as material of construction.

C 45+C, material number 1.0503 (old designation C45)
S355J0+C, material number 1.0553 (old designation St52-3)
11SMn30+C, material number 1.0715 (old designation 9S20)

Tolerances

The boring is made in H7, if there are no other specified requirements. The tolerances of the flange outer diameter are ± 0.15mm. All other dimensions are as per MULCO standards (or) as specified according to DIN 7168m and ISO 2768 standards.

Popular M.O.C.	Aluminum	Steel	Nylon
Standard Timing Pulley Range (MSB)	MXL, XL, L, 3M 5M, 8M, T2.5, T5 T10, AT5, AT10	MXL, XL, L, 3M 5M, 8M, T2.5, T5 T10, AT5, AT10	XL, L, 3M, 5M 8M

MSB : Pulley Materials & Features		
Material Type	**Characteristics**	
Aluminum	Suitable for moderate power transmission	
	light weight / reduced rotational inertia	
	moderate chemical and corrosion resistance	
	standard material for stock pulleys	
Steel	Suitable for high power transmission	
	durable	
	limited chemical and corrosion resistance	
	aesthetic material	
Stainless Steel	Suitable for high power transmission durable	
	meets FDA regulations	
	excellent chemical and corrosion resistance	
	aesthetic material	
Delrin/Nylor	Suitable for moderately high power transmission	
	excellent chemical and corrosion resistance	
	nonmetallic	
	stainless steel flanges recommended	
MSB : Pulley Surface Finishes & Benefits		
Type	**Available for**	**Characteristics**
Anodized	**Aluminum Pulleys**	Increased chemical and corrosion resistance
		available in natural, black, or colored
		limited increase of surface hardness
		aesthetic treatment
Hard Anodized	**Aluminum Pulleys**	excellent chemical and corrosion resistance
		increase surface hardness
		for abrasive environments
		stainless steel flanges recommended
Black Oxide	**Steel Pulleys**	increased chemical and corrosion resistance
		aesthetic treatment
Zinc plated	**Steel Pulleys**	increased corrosion resistance
Chrimate	**Steel Pulleys**	increased chemical and corrosion resistance

SYNCHRONIZING SHAFT

PROFILE AVAILABLE :

IMPERIAL (XL, L, H),
AT PROFILE (AT5 & AT10)
METRIC HTD (5M & 8M)
T- PROFILE (T2.5, T10, T10)

MULTI RIBBED POLY-V PULLEYS

MSB offer highly energy efficient & compact Poly-v pulleys which gives silent vibration free drives for mechanical power transmission. Poly-v pulleys are useful in designing drives with high transmission ratio thereby replacing multistage drives and also single belt can be used to drive multiple accessories/idlers in serpentine drives. Compared with conventional V-belts of the same width, Multi-Rib belts optimize the contact area, giving you increased power transfer with 40% higher power rating per unit width.

MSB range of Poly-V pulleys is available in following profiles :-

SECTION	PH	PJ	PK	PL	PM
PITCH (mm)	1.6	2.34	2.36	4.7	9.4
Min. Dia (mm)	13	20	50	75	180

SPROCKETS

MSB make sprockets can be supplied in various materials and styles, depending upon the application and severity of service requirements. All are precision cut and most features the induction hardened teeth depending on application requirement specified by user. We can also supply MSB sprockets with taper bush arrangement for ease of fitment. Many special configurations can be manufactured for OEM applications as per their specific requirement. The standard range of Simplex, Duplex & Triplex sprockets are available in four types:

MSB range of sprockets are available in solid as well as split type both in steel & Nylon material covering pitch of 1/4'', 1/2'', 3/4'' & 1 Inch.

TYPE : A	TYPE : B	TYPE : C	TYPE : D
Flat sprocket with no hub extension either side	Sprocket with hub extension one side.	Sprocket with hub extension both side.	Sprocket with a detachable bolt on hub attached to a plate.

TENSIONER

MSB offers large selection of smooth and toothed tensioning and return rollers with and without flanges, available to achieve complex belt concepts and to set the pre-tension force for rotary drives. Equipped with a cam, the required pre-tension force can be easily set with a tension roller adapted to the individual type of belt.

Maintenance-free and easy to install, MSB Tensioners ensure transmission of constant torque, ensuring longer belt service life with improved drive efficiency thereby decreasing energy costs. Chain & Belt Tensioning is important as these power transmission components with positive transmission, by virtue of their design are subject, to elongation as a result of wear up 1 to 3% of their total length. In spite of this elongation due to aging, a timing belt & roller chain transmits the torques effectively provided it is periodically re-tensioned. MSB belt Tensioners are available in Aluminum & Steel.

SLIDER BED PLATES

To support the timing belt and the product to be conveyed MSB offers slider bed plates. Depending on the functional requirements slider bed plates are available with and without edge guiding. Slider bed plates are available as standard accessory items based on the various belt widths. The standard sections are 2000mm long and longer lengths are also available on demand as per user's requirement.

The slider bed plates are made of special abrasion resistant material with low coefficient of friction in relation to timing belts. The C-section profile is constructed of zinc plated steel & rectangular slot is provided to facilitate use of mounting screw. The C-section profile is to be provided with mounting holes by the customer.

CLAMP PLATES & TENSION PLATES

Clamp plates and tension plates optimally matched to suit polyurethane timing belts are available for use in linear technology for varied applications. Both elements serve to fasten the belt ends to the machine frame or to the unit to be moved. The clamps are available with and without holes in Imperial as well as Metric pitches. Pre tension cannot be applied with clamp. Tension plates are recommended for applications where adjustment of pre-tension is required after final installation.

The clamp plates only permit fastening of the belt ends while tension plates additionally ensure the setting of the pre-tension force by means of a tension screw. Tensioners are supplied with adjustment screws of M8 (for belt width up to 50mm) & M10 (for belt width up to 150mm) For individual belt types and widths, the entire tension plate system offers the user three different optimally load-adapted variants. For the user, the availability of a complete system comprising bottom plate, interchangeable insert (if applicable), the top plate, tie rod, tensioning screw and standardized accessory parts, makes it a system offering good value for money with ease of operation.

QD BUSHINGS

The “Quick Detachable” QD bushings from MSB are easy to install and remove. They are split through flange and tapered to provide a true clamp on the shaft that is equivalent to shrink fit. The taper-bored "QD" item easily fits over the tapered bush and tightening of the cap screws produces a tight fit on the shaft. The bush is easily removed from the hub by using the pull-up bolts as jack screws. Sizes available include QH, JA, SH, SDS, SD, SK, SF, E, F. All bushes are available in pilot bore, and can be re-bored to suit the shaft requirements. All bushes ‘‘JA’’ through ‘‘F” are drilled for Reverse Mounting. MSB make QD bushing are available in inches & metric sizes and are 100% interchangeable with licensed manufacturer’s OE products.

MOUNTING PROCESS

1. Be sure the tapered cone surfaces of the bushing and the inside of the driven product are clean and free of anti-seize lubricants.
2. Slide QD bushing on shaft, range end ?rst. Assemble key.
3. Position QD bushing on shaft. Tighten set screw over key "hand tight" with standard Allen wrench only. Do not use excessive force.
4. Slide large end of sheave or sprocket taper bore into position over cone aligning drilled bolt holes in sheave or sprocket with tapped holes in range of bushing. Assemble pull-up bolts and lock washers.

NOTE: Install M thru S bushings in the hub so that the two extra holes in the hub are located as far as possible from the bushing's saw cut.

5. Tighten pull-up bolts alternately and evenly to tightness indicated in torque table on back. Do not use extensions on wrench handles. There should be a gap between the face of the sheave or sprocket hub and the Range of the QD bushing to insure a satisfactory cone grip and press it.

CAUTION: THIS GAP MUST NOT BE CLOSED.

DISMOUNTING

1. Remove pull-up bolts and screw them into TAPPED holes in sheave or sprocket and against ?ange of QD bushing to break cone grip.
2. Loosen set screw and slide QD bushing from shaft.

+91 (22) 23429666 / 23401271 / 23414890
info@msbindia.co.in | www.msbindia.co.in

Head Office:
152, Narayan Dhuru St,
Mumbai - 400003

Factory:
40, Ashwamegh Industrial estate,
Sarkhej - Bavla Highway,
Changodar - 382213