

# Precision Motion Control Pulleys

**onvio**



## EXPRESS SERVICE

- Automated design tools
- Instant quoting
- Fastest delivery

## QUALITY

- Belt and pulley know how
- Consistent design standards
- World class “LEAN” manufacturing
- Precise machining standards

## CAPABILITY

- Focused on motion control
- Made to order is standard
- Multiple material choices
- All popular pitches



Applications for timing belts are becoming more and more demanding every day. As these demands evolve beyond every day power transmission applications, engineers are forced to optimize all system elements including pulleys.

At Onvio, we specialize in producing customized pulleys, produced precisely to the engineer's design. Issues such as minimizing inertia, close fitting spaces, light weight, special coatings, tight tolerances as well as total package responsibility are exactly what we are good at.

Our pulleys are produced in virtually all pitch types — inch and metric, AT and curvilinear. Our strengths lie in our quality, our speed of quoting, as well as fast and efficient delivery.

With years of experience in not only timing belts and pulleys; but vast knowledge in high precision motion control components, Onvio can deliver virtually any custom timing belt pulley and insure that it will be the right one.

Onvio is a manufacturing company with locations in the United States and Mexico. By employing World Class manufacturing standards we are able to control all aspects of the manufacturing process which means we will deliver the right product — on time. You can count on it.

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# Onvio Precision Pulleys

## Made To Your Specifications

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### Custom Timing Belt Pulleys

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#### Pulleys

Custom for you, standard for us. At Onvio, the only pulleys we produce are made specifically to our customer's requirements. That means that our entire business process is set up to deliver exactly what you want — fast and at an economical price.

We can produce pulleys from steel, aluminum, stainless steel, special materials or plastics, with special coatings — all to your exact requirements. Available in wide widths, with or without flanges, and self tracking v-grooves.



#### Pulley Bar Stock

For customers who wish to final machine their own pulleys, especially for quick delivery of prototype custom pulleys, we produce a range of bar stock which allows you to produce your own pulleys.



#### Clamp Plates

Onvio produces a line of precision belt clamp plates as well as belt tension clamps. All clamp plates are designed to precisely match the belt they are clamping.



#### Power Pulley

We have combined the transmission strength of a speed reducer and the compact size of a pulley in our revolutionary gearbox in a pulley.

ISO9001:2000

# Specs

## Onvio Capabilities

### Made to order timing pulleys in 1 to 2 weeks.

- Globally competitive pricing.
- Delivered when YOU need them.

### Standard pulley features available:

- Flanges, hub, pilot bore, finished bore / counterbores, keyways, set screws, V-guides (K6, K13, A, O).

### Value added features include:

- Precision machining for bushings, bearings, retaining rings, slip clutches, spline bore, etc.

### Extensive "Made to Order" product line

- All standard pitches / profiles and tooth counts.
- Pulleys up to 12" / 305mm in diameter.

Onvio is continually upgrading and expanding the pulley manufacturing, please contact us at (866) 685-0404 for more information.

### Standard Timing Belt Profiles:

MXL	(.080")	standard tooth clearance
40DP	(.0816")	standard tooth clearance
XL	(.200")	standard tooth clearance
L	(.375")	standard tooth clearance
H	(.500")	standard tooth clearance
XH	(.875")	standard tooth clearance
T2.5	(2.5mm)	standard tooth clearance
T5	(5mm)	standard and zero backlash tooth clearances
T10	(10mm)	standard and zero backlash tooth clearances
T20	(20mm)	standard tooth clearance
AT5	(5mm)	standard and zero backlash tooth clearances
AT10	(10mm)	standard and zero backlash tooth clearances
AT20	(20mm)	standard and zero backlash tooth clearances
HTD 3	(3mm)	standard tooth clearance
HTD 5	(5mm)	standard tooth clearance
HTD 8	(8mm)	standard tooth clearance
STS 3	(3mm)	standard tooth clearance
STS 5	(5mm)	standard tooth clearance
STS 8	(8mm)	standard tooth clearance
Gates 3MGT*	(3mm)	contact Onvio for details
Gates 5MGT*	(5mm)	standard tooth clearance — Powergrip
Gates 8MGT*	(8mm)	standard tooth clearance — Powergrip / Polychain
Gates 14MGT*	(14mm)	contact Onvio for details
* GT, Powergrip, and Polychain are registered trademarks of The Gates Corporation		
Custom Pitch Design		contact Onvio for details
Flat Roller Pulley		contact Onvio for details
Crowned Roller Pulley		contact Onvio for details

### Materials

Type of Material	Available Finishes
Aluminum	Clear Anodize, Black Anodize Hardcoat Anodize, Electroless Nickel
Steel	Clear Zinc, Black Oxide Electroless Nickel, Black Zinc
Stainless Steel	None
Delrin, Nylon, Nylamid, UHMW	

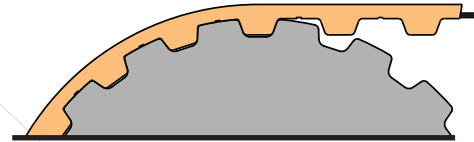
# Pulleys

## Ultimate Performance

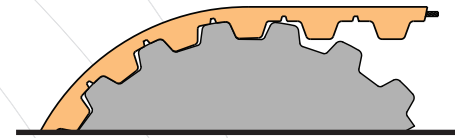
Proper meshing between belt and pulley is critical, especially in high precision motion control applications. The production methods used for making pulleys results in slight differences in the tooth profile as the tooth count varies. When a belt bends around a pulley, its tooth profile also changes and is dependent on the specific radius of that bend. Furthermore, the tooth profile of a belt can change from manufacturer to manufacturer.

To insure proper meshing of belt and pulley, it is crucial to understand these relationships. Onvio has a long history and deep knowledge of both belts and pulleys, and therefore can help to make sure that the belt and pulley function properly together. The following diagrams show each tooth profile in an ideal mesh with its corresponding pulley.

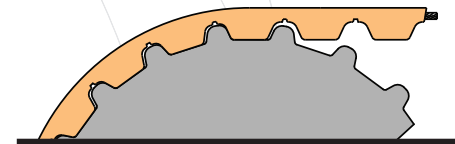
**Onvio's years of experience guarantee the right mesh between belt and pulley**



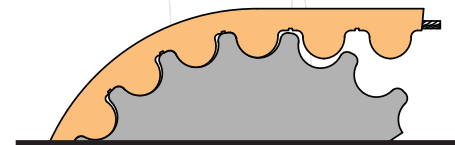
**Imperial Section**



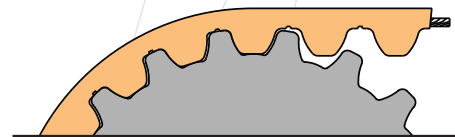
**T Section**



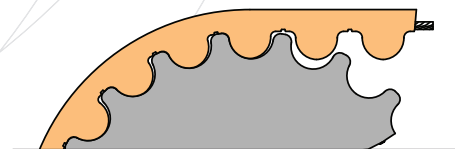
**AT Section**



**HTD Section**



**STS Section**



**GT Section**

# Pulleys

## Types and Options

The only pulleys we produce are made specifically to our customer's requirements.



Lightening Holes and Pockets



Keyway with Set Screws



Bearing Counter Bores



With OD Bushings



With Keyless Bushings



With Taper Bushings



Single Flange



Bolt on Flanges



Custom Bolt on Flanges



V-Guide



Hub with Counter Bores



Idler Roller

# Pulleys

## Onvio Worksheet

Complete this form and fax to 603 685-0405  
or visit us online at [www.onviollc.com](http://www.onviollc.com).

Name: \_\_\_\_\_

Title: \_\_\_\_\_

Company: \_\_\_\_\_

Address: \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

Telephone: \_\_\_\_\_

Fax: \_\_\_\_\_

email: \_\_\_\_\_

Describe Application: \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

**Tooth Form:** \_\_\_\_\_

**Belt Width:** \_\_\_\_\_

**Number of Teeth:** \_\_\_\_\_

**Tooth Clearance:**

- Standard
- Zero Backlash

**Material:**

- Aluminum
- Steel
- Plastic
- Stainless Steel

**Finish/Plating:** \_\_\_\_\_

**Flanges:**

- 1 Flange Hub Side
- 1 Flange Opposite Hub
- 2 Flanges

**Flange Material:**

- Steel (standard)
- Aluminum
- Stainless Steel

**Pulley Type:**

- With Hub
- Without Hub
- Other: \_\_\_\_\_

**V-Guide**

- A-Section
- K 6 Section
- K 13 Section
- O Section

**Standard Pilot Bore:** \_\_\_\_\_

**English Bore:** \_\_\_\_\_

**Metric Bore:** \_\_\_\_\_

**Standard Keyway:** \_\_\_\_\_

**Custom Keyway:** \_\_\_\_\_

**Quantity of Set Screws:**

- 1
- 2
- Other

**Location of Set Screws:**

- 90 Degrees Apart
- 120 Degrees Apart

**Counterbores:**

- None (standard)
- 1 C'bore Hub Side
- 1 C'bore Opposite Hub
- 2 C'bores

**Other Features:** \_\_\_\_\_

\_\_\_\_\_

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To speak with an Onvio representative please call 603 685-0404  
or toll free 866 685-0404, or, e-mail to: [engineering@onviollc.com](mailto:engineering@onviollc.com).



[www.onviollc.com](http://www.onviollc.com)

**USA  
CORPORATE HEADQUARTERS**

Onvio LLC  
20 Northwestern Drive  
Salem, NH 03079  
Tel. +1 (603) 685-0404  
Tel. +1 (866) 685-0404  
Fax +1 (603) 685-0405  
email: [contact@onviollc.com](mailto:contact@onviollc.com)

