



**IMPROVE ENERGY EFFICIENCY  
WITH POWER ACE® COG OR  
POWER KING® COG BELTS**

**BANDO**

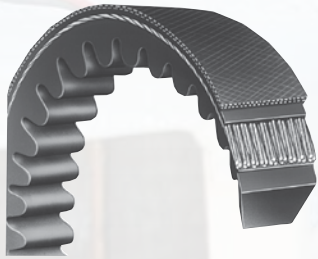
**PREMIUM QUALITY  
POWER TRANSMISSION V-BELTS**

S I N C E 1 9 0 6

# 3 Keys to Energy Efficient V-belt Drives

1

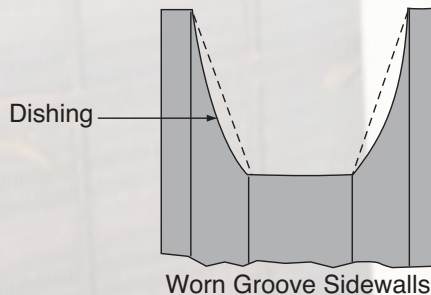
## Switch to Bando Raw Edge Cogged Belts



Raw Edge Cogged V-belts grip the sheave sidewalls better, minimizing slip (which increases efficiency).

2

## Test and Replace Worn Sheaves

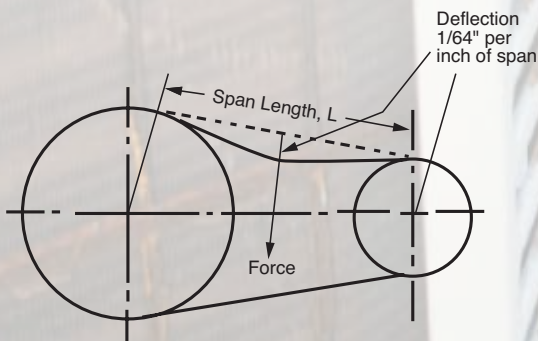


Test with Sheave Gauges.

Sheaves with as little as  $\frac{1}{32}$ " of wear will cause your belts to slip excessively. The payback for replacing worn sheaves can be as little as four months when compared to the cost of electricity loss due to inefficiency of the drive.

3

## Tension and Align V-belts Properly



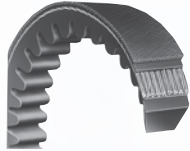
The proper tension is the lowest tension at which the belt(s) won't slip or squeal under peak load. Always retension belts 24-48 hours after start-up due to the belts seating into the sheave groove.

Sheaves should be aligned to within  $\frac{1}{2}$  degree or  $\frac{1}{10}$ " per foot of center distance.

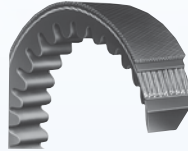
Contact your local Bando Representative or visit us at [BandoUSA.com](http://BandoUSA.com) for a copy of Bando's Installation and Maintenance Guide.



# Energy Saving Belts



**Power Ace® Cog**

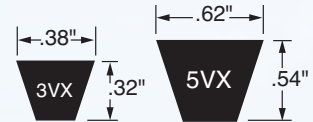


**Power King® Cog**

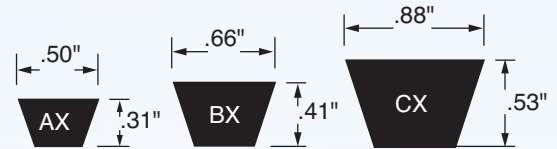
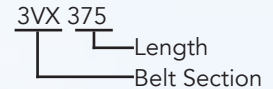
Most standard wrapped V-belt drives operate at an efficiency rate of about 93% if properly installed and maintained.

Bando's Power Ace® Cog/Power King® Cog V-belts run in the exact same sheaves, or pulleys as the wrapped version and are identified with the letter X after the cross section in the part number.

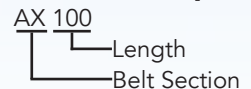
By switching from a standard wrapped V-belt to its raw edge cogged version, it is possible to improve the drives efficiency by 2-3%. The raw edge grips the sheave sidewalls better and the cogs reduce the bending resistance of the belt. Therefore, they run cooler and last longer.



**Part Number Example**



**Part Number Example**



## Example\*

A continuously operating 100-hp supply air fan motor (using a 93% efficient wrapped V-belt) operates at an average load of 75% while consuming 527,000 kWh annually. What are the annual energy and dollar savings if a 93% efficient ( $\eta_1$ ) wrapped V-belt is replaced with a 95% efficient ( $\eta_2$ ) cogged V-belt? Electricity is priced at \$0.10/kWh.

## Energy Savings

$$\text{Annual Energy Use} \times (1 - \eta_1/\eta_2) = 527,000 \text{ kWh/year} \times (1 - 93/95) = \mathbf{16,132 \text{ kWh/yr}}$$

## Cogged Annual Cost Savings

$$16,132 \text{ kWh} \times \$0.10/\text{kWh} = \mathbf{\$1,612/\text{yr}}$$

\* Extrapolated from the US Department of Energy Motor Systems Tip sheet #5

# Installation and Maintenance Tools



Laser Alignment Tool  
BUI 4018



Sheave Gauges  
BUI 4014



Tension Tester  
BUI 4003



Tension Master device with App  
BUI 4006

## THE CUSTOMER EXPERIENCE... IT'S OUR RESPONSIBILITY

