Energy-Saving V-Belt

Product Introduction

By reducing losses by belt bending stress, CO_2 emissions reduction and energy-saving effects can be expected.

Product Features

■ **Energy-saving (power-saving) and CO_2 emissions reduction can be expected.**

Although it depends on the conditions, a maximum of approximately 6% power can be reduced.

■ **No change of pulleys is necessary.**

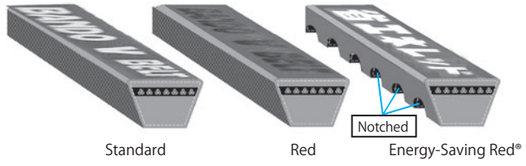
It can be used just by replacing the previous V-belt with Energy-Saving Red and replacing Power Ace with Energy-Saving Power Ace.

■ **Long service life.** *Based on our bench tests.

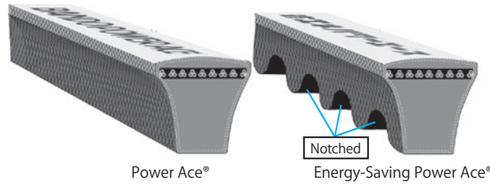
Due to the belt structure, internal heating is little, and the service life is long.

■ **Cost reduction possible.**

The cost can be reduced by the energy-saving (power-saving) effect and the reduction in the number of belts.



Standard　Red　Energy-Saving Red®



Power Ace®　Energy-Saving Power Ace®

Why Can the Energy-Saving (Power-Saving) Effect Be Obtained?

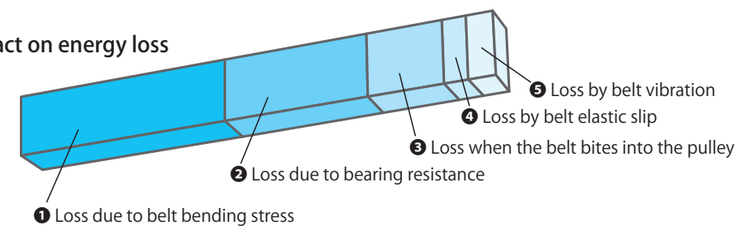
■ Energy losses by a belt (explanatory drawing)

Any power transmission device has losses (energy losses), and belt power transmission devices have the following energy losses.

Belt bending stress | Bearing resistance | Loss when the belt bites into the pulley | Belt elastic slip | Belt vibration

Large ← Degree of impact → Small

■ Degree of impact on energy loss



The Energy-Saving V-Belt can be bent with a small force structurally; hence, the reduction of "losses by bending stress," whose energy loss ratio is high, can provide the energy-saving (power-saving) effect.

* The belt bending rigidity EI is an index of the ease of bending. The lower the value, the more easily the belt can be bent.

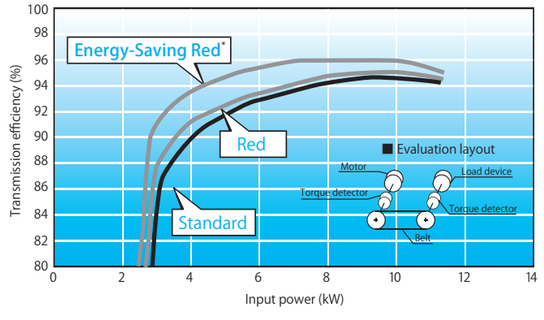
1. Energy-Saving Red™

Belt type	Range of manufacturable sizes
JIS Type A	20 to 360 inches
JIS Type B	25 to 360 inches
JIS Type C	35 to 360 inches
JIS Type D	100 to 360 inches

[Note] Effective length (mm) = 25.4 × size (nominal designation)

■ Power transmission efficiency verification result

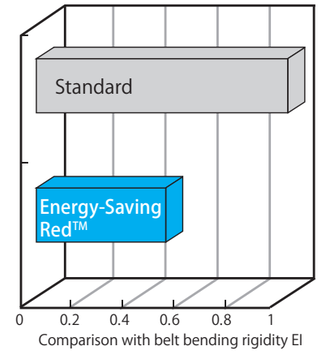
Input power and power transmission efficiency
<**Power Standard**> Tension 50 kgf | B-50 | 3 belts | ϕ118-ϕ118



- The design transmission efficiency in the range of use of Energy-Saving Red* is **4%** higher than that of the standard.

■ Comparison of belt bending rigidities <Belt Type B>

(When the standard is 1)



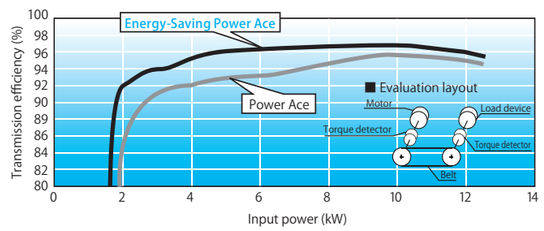
2. Energy-Saving Power Ace™

Belt type	Range of manufacturable sizes
Type 3V	250～1400
Type 5V	500～3550
Type 8V	1000～3550

*Please specify the effective length with a nominal number.
*Effective length = Effective outside length (mm) = 25.4 × Nominal No. / 10

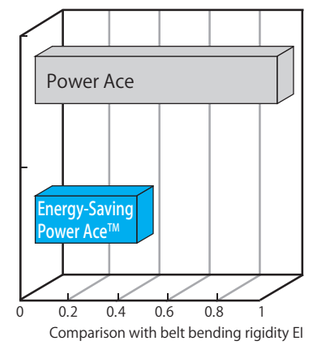
■ Power transmission efficiency verification result

Input power and power transmission efficiency
<**Power Standard**> Tension 50 kgf | 5V530 | 1 belts | ϕ150-ϕ150



■ Comparison of belt bending rigidities <Belt Type 5V>

(When Power Ace is 1)



3. How to Design an Energy-Saving V-Belt

The transmission capacity of the Energy-Saving V-Belt is the same as that of the standard belt.
Refer to the design calculation page for the respective standard type belt.

Energy-Saving V-Belt	Reference product	Design calculation page
Energy-Saving Power Ace	Power Ace	245～273
Energy-Saving Red	V-Belt Red	