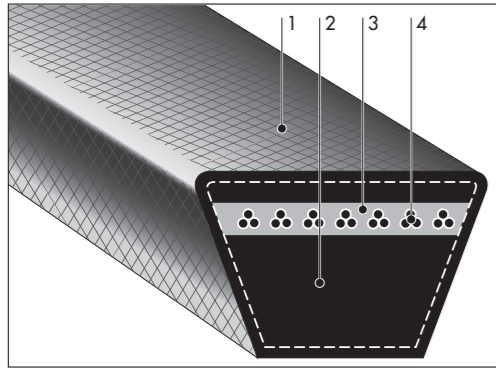


1. V-Belt (Red Standard) Product Introduction

Structure



① Cover fabric

The cover fabric has a sufficient abrasion resistance to friction with the pulleys and is made of a strong, elastic, and bias special cloth. The further reinforcement with the abrasion-resistant rubber protects the inside sufficiently.

② Compression rubber

It keeps the normal belt cross-sectional profile, has extremely little heat generation against bending, and is very flexible.

③ Adhesion rubber

While it maintains the cord layer at an appropriate position, it also improves the adhesion between the cord layer and the rubber layer.

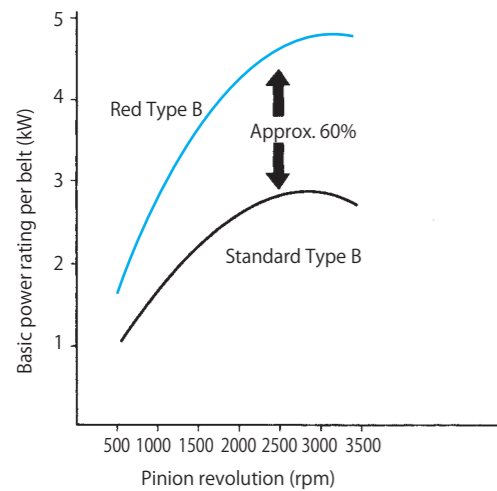
④ Cord

It is the main part that transmits power and uses a polyester cord that has a high strength, has little elongation, and has little flex fatigue. It strongly adheres to and is integrated with the rubber layer; hence, in power transmission, each cord receives uniform force and can perform stable power transmission.

Features/Red

■ High-quality and high-power-transmission V-belt

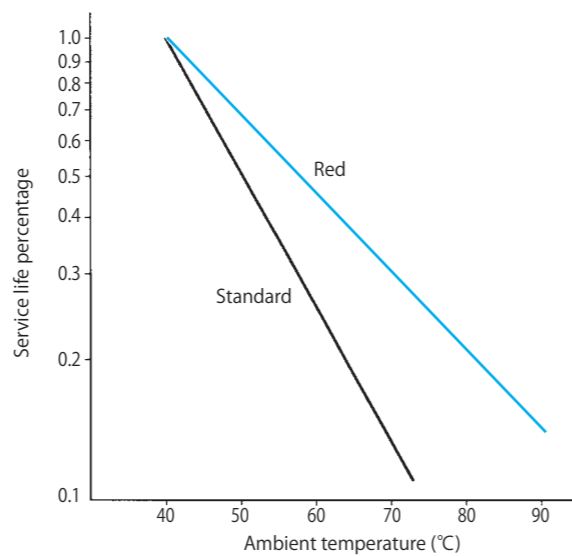
It employs polyester cords that are strong and have little elongation and a synthetic rubber compound, and has about 60% higher power than the previous Standard.



This graph plots the transmission power per belt as compared to revolution when a Type-B 125-mm-dia. pulley is used.

■ Excellent heat resistance

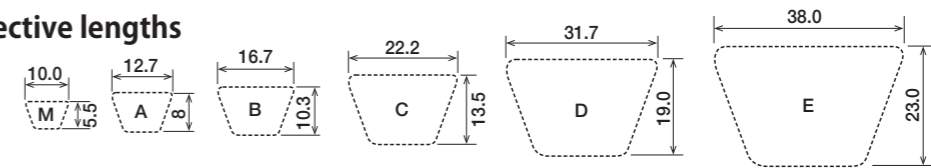
Generally, when the ambient temperature increases, the belt service life decreases as shown in the graph below. However, Bando Red has a lower reduction rate than Standard; hence, when the ambient temperature is high (normally 60 °C or more), it is recommended to use Bando Red.



■ Excellent flame resistance.

Because it does not have a self-burning property, the risk of ignition due to excessive slipping is low.

Table of effective lengths

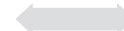
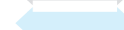


Manufacturable range for Standard *: Standard dimension prescribed in JIS
 Manufacturable range for Red ○: Bando's standard dimension
 Effective dimension: Represents effective outside length for Type M and effective pitch length for Types A, B, C, D, and E.

| Nominal No. | Effective dimension (mm) | Belt type | | | | | |
|-------------|--------------------------|-----------|---|---|---|---|---|
| | | M | A | B | C | D | E |
| 11 | 279 | | | | | | |
| 12 | 305 | | | | | | |
| 13 | 330 | | | | | | |
| 14 | 356 | | | | | | |
| 15 | 381 | | | | | | |
| 16 | 406 | | | | | | |
| 17 | 432 | | | | | | |
| 18 | 457 | | | | | | |
| 19 | 483 | | | | | | |
| 20 | 508 | | | | | | |
| 21 | 533 | | | | | | |
| 22 | 559 | | | | | | |
| 23 | 584 | | | | | | |
| 24 | 610 | | | | | | |
| 25 | 635 | | | | | | |
| 26 | 660 | | | | | | |
| 27 | 686 | | | | | | |
| 28 | 711 | | | | | | |
| 29 | 737 | | | | | | |
| 30 | 762 | | | | | | |
| 31 | 787 | | | | | | |
| 32 | 813 | | | | | | |
| 33 | 838 | | | | | | |
| 34 | 864 | | | | | | |
| 35 | 889 | | | | | | |
| 36 | 914 | | | | | | |
| 37 | 940 | | | | | | |
| 38 | 965 | | | | | | |
| 39 | 991 | | | | | | |
| 40 | 1016 | | | | | | |
| 41 | 1041 | | | | | | |
| 42 | 1067 | | | | | | |
| 43 | 1092 | | | | | | |
| 44 | 1118 | | | | | | |
| 45 | 1143 | | | | | | |
| 46 | 1168 | | | | | | |
| 47 | 1194 | | | | | | |
| 48 | 1219 | | | | | | |
| 49 | 1245 | | | | | | |
| 50 | 1270 | | | | | | |
| 51 | 1295 | | | | | | |
| 52 | 1321 | | | | | | |
| 53 | 1346 | | | | | | |
| 54 | 1372 | | | | | | |
| 55 | 1397 | | | | | | |
| 56 | 1422 | | | | | | |
| 57 | 1448 | | | | | | |
| 58 | 1473 | | | | | | |
| 59 | 1499 | | | | | | |
| 60 | 1524 | | | | | | |
| 61 | 1549 | | | | | | |
| 62 | 1575 | | | | | | |
| 63 | 1600 | | | | | | |
| 64 | 1626 | | | | | | |
| 65 | 1651 | | | | | | |
| 66 | 1676 | | | | | | |
| 67 | 1702 | | | | | | |
| 68 | 1727 | | | | | | |
| 69 | 1753 | | | | | | |
| 70 | 1778 | | | | | | |
| 71 | 1803 | | | | | | |
| 72 | 1829 | | | | | | |
| 73 | 1854 | | | | | | |

| Nominal No. | Effective dimension (mm) | Belt type | | | | | |
|-------------|--------------------------|-----------|---|---|---|---|---|
| | | M | A | B | C | D | E |
| 74 | 1880 | | | | | | |
| 75 | 1905 | | | | | | |
| 76 | 1930 | | | | | | |
| 77 | 1956 | | | | | | |
| 78 | 1981 | | | | | | |
| 79 | 2007 | | | | | | |
| 80 | 2032 | | | | | | |
| 81 | 2057 | | | | | | |
| 82 | 2083 | | | | | | |
| 83 | 2108 | | | | | | |
| 84 | 2134 | | | | | | |
| 85 | 2159 | | | | | | |
| 86 | 2184 | | | | | | |
| 87 | 2210 | | | | | | |
| 88 | 2235 | | | | | | |
| 89 | 2261 | | | | | | |
| 90 | 2286 | | | | | | |
| 91 | 2311 | | | | | | |
| 92 | 2337 | | | | | | |
| 93 | 2362 | | | | | | |
| 94 | 2388 | | | | | | |
| 95 | 2413 | | | | | | |
| 96 | 2438 | | | | | | |
| 97 | 2464 | | | | | | |
| 98 | 2489 | | | | | | |
| 99 | 2515 | | | | | | |
| 100 | 2540 | | | | | | |
| 101 | 2565 | | | | | | |
| 102 | 2591 | | | | | | |
| 103 | 2616 | | | | | | |
| 104 | 2642 | | | | | | |
| 105 | 2667 | | | | | | |
| 106 | 2692 | | | | | | |
| 107 | 2718 | | | | | | |
| 108 | 2743 | | | | | | |
| 109 | 2769 | | | | | | |
| 110 | 2794 | | | | | | |
| 111 | 2819 | | | | | | |
| 112 | 2845 | | | | | | |
| 113 | 2870 | | | | | | |
| 114 | 2896 | | | | | | |
| 115 | 2921 | | | | | | |
| 116 | 2946 | | | | | | |
| 117 | 2972 | | | | | | |
| 118 | 2997 | | | | | | |
| 119 | 3023 | | | | | | |
| 120 | 3048 | | | | | | |
| 121 | 3073 | | | | | | |
| 122 | 3099 | | | | | | |
| 123 | 3124 | | | | | | |
| 124 | 3150 | | | | | | |
| 125 | 3175 | | | | | | |
| 126 | 3200 | | | | | | |
| 127 | 3226 | | | | | | |
| 128 | 3251 | | | | | | |
| 129 | 3277 | | | | | | |
| 130 | 3302 | | | | | | |
| 131 | 3327 | | | | | | |
| 132 | 3353 | | | | | | |
| 133 | 3378 | | | | | | |
| 134 | 3404 | | | | | | |
| 135 | 3429 | | | | | | |
| 136 | 3454 | | | | | | |

Table of effective lengths

 Manufacturable range for Standard *: Standard dimension prescribed in JIS Effective dimension: Represents effective outside length for Type M and effective pitch length for Types A, B, C, D, and E.
 Manufacturable range for Red ○: Bando's standard dimension

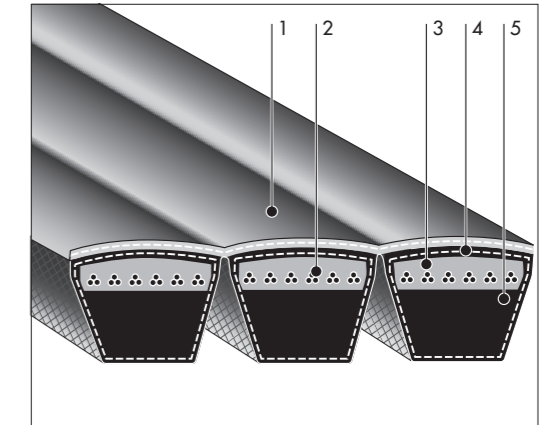
| Nominal No. | Effective dimension (mm) | Belt type | | | | | |
|-------------|--------------------------|-----------|---|---|---|---|---|
| | | M | A | B | C | D | E |
| 137 | 3480 | | | | | | |
| 138 | 3505 | | | | | | |
| 139 | 3531 | | | | | | |
| 140 | 3556 | | | | | | |
| 141 | 3581 | | | | | | |
| 142 | 3607 | | | | | | |
| 143 | 3632 | | | | | | |
| 144 | 3658 | | | | | | |
| 145 | 3683 | | | | | | |
| 146 | 3708 | | | | | | |
| 147 | 3734 | | | | | | |
| 148 | 3759 | | | | | | |
| 149 | 3785 | | | | | | |
| 150 | 3810 | | | | | | |
| 151 | 3835 | | | | | | |
| 152 | 3861 | | | | | | |
| 153 | 3886 | | | | | | |
| 154 | 3912 | | | | | | |
| 155 | 3937 | | | | | | |
| 156 | 3962 | | | | | | |
| 157 | 3988 | | | | | | |
| 158 | 4013 | | | | | | |
| 159 | 4039 | | | | | | |
| 160 | 4064 | | | | | | |
| 161 | 4089 | | | | | | |
| 162 | 4115 | | | | | | |
| 163 | 4140 | | | | | | |
| 164 | 4166 | | | | | | |
| 165 | 4191 | | | | | | |
| 166 | 4216 | | | | | | |
| 167 | 4242 | | | | | | |
| 168 | 4267 | | | | | | |
| 169 | 4293 | | | | | | |
| 170 | 4318 | | | | | | |
| 171 | 4343 | | | | | | |
| 172 | 4369 | | | | | | |
| 173 | 4394 | | | | | | |
| 174 | 4420 | | | | | | |
| 175 | 4445 | | | | | | |
| 176 | 4470 | | | | | | |
| 177 | 4496 | | | | | | |
| 178 | 4521 | | | | | | |
| 179 | 4547 | | | | | | |
| 180 | 4572 | | | | | | |
| 181 | 4597 | | | | | | |
| 182 | 4623 | | | | | | |
| 183 | 4648 | | | | | | |
| 184 | 4674 | | | | | | |
| 185 | 4699 | | | | | | |
| 186 | 4724 | | | | | | |
| 187 | 4750 | | | | | | |
| 188 | 4775 | | | | | | |
| 189 | 4801 | | | | | | |
| 190 | 4826 | | | | | | |
| 191 | 4851 | | | | | | |
| 192 | 4877 | | | | | | |
| 193 | 4902 | | | | | | |
| 194 | 4928 | | | | | | |
| 195 | 4953 | | | | | | |
| 196 | 4978 | | | | | | |
| 197 | 5004 | | | | | | |
| 198 | 5029 | | | | | | |
| 199 | 5055 | | | | | | |
| 200 | 5080 | | | | | | |
| 205 | 5207 | | | | | | |
| 210 | 5334 | | | | | | |

| Nominal No. | Effective dimension (mm) | Belt type | | | | | |
|-------------|--------------------------|-----------|---|---|---|---|---|
| | | M | A | B | C | D | E |
| 215 | 5461 | | | | | | |
| 220 | 5588 | | | | | | |
| 225 | 5715 | | | | | | |
| 230 | 5842 | | | | | | |
| 235 | 5969 | | | | | | |
| 240 | 6096 | | | | | | |
| 245 | 6223 | | | | | | |
| 250 | 6350 | | | | | | |
| 255 | 6477 | | | | | | |
| 260 | 6604 | | | | | | |
| 265 | 6731 | | | | | | |
| 270 | 6858 | | | | | | |
| 275 | 6985 | | | | | | |
| 280 | 7112 | | | | | | |
| 285 | 7239 | | | | | | |
| 290 | 7366 | | | | | | |
| 295 | 7493 | | | | | | |
| 300 | 7620 | | | | | | |
| 305 | 7747 | | | | | | |
| 310 | 7874 | | | | | | |
| 315 | 8001 | | | | | | |
| 320 | 8128 | | | | | | |
| 325 | 8255 | | | | | | |
| 330 | 8382 | | | | | | |
| 335 | 8509 | | | | | | |
| 340 | 8636 | | | | | | |
| 345 | 8763 | | | | | | |
| 350 | 8890 | | | | | | |
| 355 | 9017 | | | | | | |
| 360 | 9144 | | | | | | |
| 365 | 9271 | | | | | | |
| 370 | 9398 | | | | | | |
| 375 | 9525 | | | | | | |
| 380 | 9652 | | | | | | |
| 385 | 9779 | | | | | | |
| 390 | 9906 | | | | | | |
| 395 | 10033 | | | | | | |
| 400 | 10160 | | | | | | |
| 410 | 10414 | | | | | | |
| 420 | 10668 | | | | | | |
| 430 | 10922 | | | | | | |
| 440 | 11176 | | | | | | |
| 450 | 11430 | | | | | | |
| 460 | 11684 | | | | | | |
| 470 | 11938 | | | | | | |
| 480 | 12192 | | | | | | |
| 490 | 12446 | | | | | | |
| 500 | 12700 | | | | | | |
| 510 | 12954 | | | | | | |
| 520 | 13208 | | | | | | |
| 530 | 13462 | | | | | | |
| 540 | 13716 | | | | | | |
| 550 | 13970 | | | | | | |
| 560 | 14224 | | | | | | |
| 570 | 14478 | | | | | | |
| 580 | 14732 | | | | | | |
| 590 | 14986 | | | | | | |
| 600 | 15240 | | | | | | |
| 610 | 15494 | | | | | | |
| 620 | 15748 | | | | | | |
| 630 | 16002 | | | | | | |
| 640 | 16256 | | | | | | |
| 650 | 16510 | | | | | | |

When using multiple belts, please specify a matched set.

2. Power Scrum Product Introduction

Structure (V-Belt Type)



1. Tie band 2. Cord 3. Adhesion rubber
4. Cover fabric 5. Compression rubber

Bando Power Scrum is a combined belt that combines the top sections of V-Belt Red using tie bands. As the cross-sectional profile of the belt is the same as V-belts, JIS V-grooved pulleys can be used.

Features

■ Stable operation even under violent load fluctuations

Even when the machine involves shock loads and pulsating loads, the belt tied with tie bands vibrates little and can operate stably, and it does not flip over to the side or come off of a pulley.

■ Belt most suitable for vertical shaft drives

The tying with tie bands allows the belt to be used even in a vertical shaft drive with no detachment from the pulleys.

■ Allows V-flat power transmission.

Deceleration at a high speed ratio is possible with V-flat power transmission, allowing inexpensive power transmission.

■ Can also be used for conveyance.

■ Manufacturable range for Power Scrum

| Belt type | P(mm) | Nominal No.* |
|-----------|-------|--------------|
| A | 15.0 | 60~200 |
| B | 19.0 | 60~350 |
| C | 25.5 | 100~350 |
| D | 37.0 | 100~350 |

*The nominal numbers for V-belt type represent the effective pitch length of the belt in units of inches.

● The V-belt type is made to order. Please use the Power Ace type if possible.

Belt Indication

■ Indication example

5 - C 100
 No. of ridges Nominal No. (100 inches: 2540 mm)
 Belt type (Type C)

Standard Combination by the Number of Ridges

A single Power Scrum belt consists of a combination of two, three, four, and/or five ridges. For six ridges or more, the standard combinations are shown in the following table.

| No. of ridges | Standard combination | No. of ridges | Standard combination |
|---------------|----------------------|---------------|----------------------|
| 6 | 3+3 | 13 | 4+5+4 |
| 7 | 3+4 | 14 | 5+4+5 |
| 8 | 4+4 | 15 | 5+5+5 |
| 9 | 4+5 | 16 | 4+4+4+4 |
| 10 | 5+5 | 17 | 4+4+5+4 |
| 11 | 4+3+4 | 18 | 5+4+4+5 |
| 12 | 4+4+4 | 19 | 5+4+5+5 |

When using multiple belts, please specify a matched set.

Pulley

For pulleys for Power Scrum, the groove pitch is especially important.

Use JIS pulleys.

3. V-grooved pulley groove dimensions

The pulley groove profile is shown in Fig. 1. Use Table 1 Standard pulley groove dimensions. For horizontal power transmission or vertical power transmission, use Table 2 Deep pulley groove dimensions.

Fig. 1 Pulley groove cross section

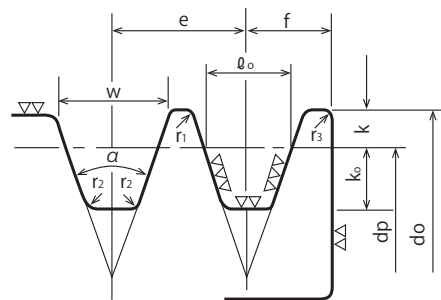


Table 1 Standard pulley groove dimensions

(Unit: mm)

| Type | Pulley pitch diameter (dp) | α (°) | $l o$ | (w) | k | ko | e | f | r ₁ | r ₂ | r ₃ | (Reference) Belt thickness |
|------|----------------------------|--------------|-------|-------|------|------|------|------|----------------|----------------|----------------|----------------------------|
| M | 50~71 | 34 | 8.0 | 9.65 | 2.7 | 6.3 | * | 9.5 | 0.2~0.5 | 0.5~1.0 | 1~2 | 5.5 |
| | 72~90 | 36 | | 9.75 | | | | | | | | |
| | 91 or more | 38 | | 9.86 | | | | | | | | |
| A | 71~100 | 34 | 9.2 | 11.95 | 4.5 | 8.0 | 15.0 | 10.0 | 0.2~0.5 | 0.5~1.0 | 1~2 | 8 |
| | 101~125 | 36 | | 12.12 | | | | | | | | |
| | 126 or more | 38 | | 12.30 | | | | | | | | |
| B | 125~160 | 34 | 12.5 | 15.86 | 5.5 | 9.5 | 19.0 | 12.5 | 0.2~0.5 | 0.5~1.0 | 1~2 | 10.3 |
| | 161~200 | 36 | | 16.07 | | | | | | | | |
| | 201 or more | 38 | | 16.29 | | | | | | | | |
| C | 200~250 | 34 | 16.9 | 21.18 | 7.0 | 12.0 | 25.5 | 17.0 | 0.2~0.5 | 1.0~1.6 | 2~3 | 13.5 |
| | 251~315 | 36 | | 21.45 | | | | | | | | |
| | 316 or more | 38 | | 21.72 | | | | | | | | |
| D | 355~450 | 36 | 24.6 | 30.77 | 9.5 | 15.5 | 37.0 | 24.0 | 0.2~0.5 | 1.6~2.0 | 3~4 | 19 |
| | 451 or more | 38 | | 31.14 | | | | | | | | |
| E | 500~630 | 36 | 28.7 | 36.95 | 12.7 | 19.3 | 44.5 | 29.0 | 0.2~0.5 | 1.6~2.0 | 4~5 | 23 |
| | 631 or more | 38 | | 37.45 | | | | | | | | |

(Note) For Type M, only one belt should be used in principle.

Table 2 Deep pulley groove dimensions

(Unit: mm)

| Type | Pulley pitch diameter (dp) | α (°) | $l o$ | (w) | k | ko | e | f | r ₁ | r ₂ | r ₃ |
|------|----------------------------|--------------|-------|-------|------|------|------|------|----------------|----------------|----------------|
| A | 71~100 | 34 | 9.2 | 14.40 | 8.5 | 8.0 | 18 | 12 | 0.2~0.5 | 0.5~1.0 | 1~2 |
| | 101~125 | 36 | | 14.72 | | | | | | | |
| | 126 or more | 38 | | 15.05 | | | | | | | |
| B | 125~160 | 34 | 12.5 | 18.61 | 10.0 | 9.5 | 22 | 14.5 | 0.2~0.5 | 0.5~1.0 | 1~2 |
| | 161~200 | 36 | | 19.00 | | | | | | | |
| | 201 or more | 38 | | 19.39 | | | | | | | |
| C | 200~250 | 34 | 16.9 | 25.46 | 14.0 | 12.0 | 31.5 | 20 | 0.2~0.5 | 1.0~1.6 | 2~3 |
| | 251~315 | 36 | | 26.00 | | | | | | | |
| | 316 or more | 38 | | 26.54 | | | | | | | |
| D | 355~450 | 36 | 24.6 | 37.27 | 19.5 | 15.5 | 45 | 29 | 0.2~0.5 | 1.6~2.0 | 3~4 |
| | 451 or more | 38 | | 38.03 | | | | | | | |
| E | 500~630 | 36 | 28.7 | 44.10 | 23.7 | 19.3 | 52.5 | 34 | 0.2~0.5 | 1.6~2.0 | 4~5 |
| | 631 or more | 38 | | 45.02 | | | | | | | |

● Pulley material

JIS G 5501 "Gray Iron Castings" FC200 to 250