

5B... Banded Belt

- Eliminate belt whip, belt twist and belt turn over
- Ideal for drives with pulsating loads
- Available for ISO and RMA pulleys
- Heat and oil resistant

On applications where pulsating or shock loads cause instability in matched sets of Wedge or V-belts, Banded belts can provide the ideal solution.

By joining together a number of belts with a tie band the banded belt has sufficient lateral rigidity to eliminate problems caused by belts whipping or turning over, and by keeping the belts running into the grooves in a straight line excessive jacket wear is avoided resulting in longer belt life.

Banded belts can be used in Taper Bush pulleys manufactured to ISO standards but they are also available for RMA profile pulleys.

When ordering Banded belts it is important that the correct groove profile is selected. The groove spacing i.e. dimension 'e' is given in the following table.

Belt section	Pulley types	e (mm)
SPZ SPA SPB SPC	ISO standard only	12.0 15.0 19.0 25.5
9J (Alpha, 3V) 15J (Beta, 5V) 25J (Delta, 8V)	RMA only	10.3 17.5 28.6
HA B } C } D }	{ RMA only { RMA and ISO { ISO only	15.9 19.0 25.5 37.0

Note

- 1) Pulleys and belts defined as ISO conform exactly to BS 3790:1981.
- 2) RMA denotes Rubber Manufacturers Association of America standards and often applies to agricultural machinery.

Tensioning

Banded belts should be installed with the same tension as for wedge Belt

The spring plunger belt tension indicator can be used, as for individual belts but with the same setting force MULTIPLIED by the number of belts in a band (2, 3, 4 or 5).

A piece of rigid bar placed across the band width can ensure even deflection of all belts in the band.

SELECTION

- (a) Determine whether any pulsating loads will be present in the drive, which would cause excessive vibration.
- (b) Using the wedge belt selection Procedure, select the number and size of belts and sizes of pulleys to suit the particular drive*.
- (c) Select a banded belt length nearest to the length found in step (b).

*RMA wedge belts and HA section V-belts are only intended for replacement purposes. New drives should be designed using ISO wedge or classical section belts. If the exact length is not listed opposite, re-calculate the centre distance using the formula below:-

$$C = A + \sqrt{A^2 - B}$$

where: $A = \frac{L}{4} - 0.3925 (D+d)$

$$B = \frac{(D - d)^2}{8}$$

C = centre distance in mm

D = pitch diameter of larger pulley in mm

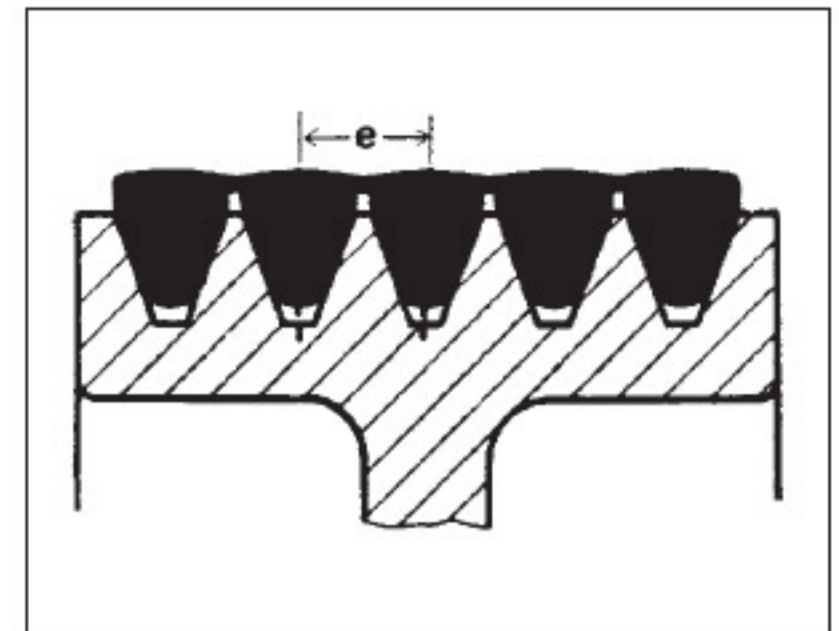
d = pitch diameter of smaller pulley in mm

L = pitch length of belt in mm

It is normal practice to use no more than five belts in one band. Accumulation of manufacturing tolerances on pulley groove pitch (dimension 'e') can result in incorrect belt seating when more than 5 belts are used in a single band.

Therefore when more than 5 belts are needed use two or more bands e.g. :-

- 6 belts - use 2 bands of 3
- 8 belts - use 2 bands of 4
- 9 belts - use 1 band of 4 and 1 band of 5



ORDERING INSTRUCTIONS

When ordering Banded Belts it is important to state the number of belts per band; the section and the belt length as follows:-

Banded 4 9J 2840 is 4 Banded 9J 2840
Banded 5 SPB 3170 is 5 Banded SPB 3170
Banded 2 C 3100 is 2 Banded C 3100

e.g.

Banded 4 9J 2840 is 212Z02844
Banded 5 SPB 3170 is 216B03175
Banded 2 C 3100 is 214C03102

Note: When ordering banded belts it is important to specify the correct pulley groove profile, as ISO and RMA grooves have different spacings (dimension e) for essentially the same belt section.