



# V-BELTS

V-belts include not only traditional classical and narrow profiled belts, but also Double-V and FHP belts. When synchronization or timing is not required, V-belts make an excellent low-cost, quiet and efficient means of transmitting

power. However, not all V-belts perform the same. Depending on your application and your objectives, some V-belts will be better at getting you closer to your end goal.

## NARROW (WEDGE) V-BELTS

Effectively handling drives from 1 to 1,000 hp, these belts rank high in horsepower-hours per dollar, the ultimate measure of drive value. The narrow-belt cross sections (3V, 5V, and 8V), offer higher power capacity for any sheave size and weight.

The narrow or “wedge” design provides more tensile member support than classical V-belts. Narrow belts handle an equivalent load, but with narrower face width and smaller diameters than the traditional classical V-belts. These features allow the use of smaller belts or fewer belts to transmit the load, an important advantage if your goal is to maximize power transmission efficiency by reducing drive weight and size.

## CLASSICAL V-BELTS

The most widely used V-belts are A, B, C, and D classical belts. Used more out of habit and convenience than design, these belts can handle fractional to 500-hp drives, usually at the lowest cost. However, they occupy more space, and the drives weigh more than narrow-belt drives. Also, classical belts are usually less efficient than narrow belts. But their versatility and wide range of sizes and types make them an attractive alternative to wedge belts.

Many classical belts are used for replacement because it is considered too costly to replace sheaves when upgrading from classical to narrow or other belt types. Therefore, when replacing classical sheaves, it is an opportune time to upgrade to narrow or other belt types.

## DOUBLE-V OR HEX BELTS

A variation of the classical belt, Hex belts come in AA, BB, CC, or a deep CCP cross section. These belts transfer power from either side in serpentine drives. A drive design using Hex

belts is more complicated and Goodyear’s V-belt engineering manual should be consulted when replacing or troubleshooting these drives.

## FHP (FRACTIONAL HORSEPOWER BELTS)

The 3L, 4L, and 5L light-duty FHP belts are part of the classical belt line also. As the name implies, these belts are used

singly on drives of 1 hp or less.

## COGGED, RAW-EDGE V-BELT CONSTRUCTION VS. ENVELOPE CONSTRUCTION

Goodyear has a complete offering of cogged, raw-edge belts in narrow, classical, and FHP styles. Designated 3VX, 5VX, AX, BX, CX, 4L, and 5L, cogged, raw-edge V-belts have higher capacity and efficiency, and they use smaller sheaves than traditional envelope (wrapped) belts. These belts have a higher coefficient of friction and are more aggressive, which makes them a very efficient belt for power transmission.

Unlike conventional fabric-covered V-belts, raw-edge belts have no cover. Thus, the cross-sectional area normally occupied by the cover is used for more load-carrying cord. Cogs on the inner surface of the belt increase air flow to enhance cooler running. They also increase flexibility, allowing the belt to operate with smaller sheaves. With classical V-belts, certain

under-designed or problem drives can be upgraded to “satisfactory” by substituting classical cogged belts for classical envelope belts without replacing sheaves.

Because of their higher coefficient of friction, cogged belts tend to be more sensitive to alignment. While envelope belts can tolerate some misalignment, cogged belts are more likely to turn over under the same conditions. Cogged belts should not be used in clutching drives, drives with severe shock loads, and drives that have changing center distances, such as shaker screens. In these applications, the aggressive nature and flexibility of cogged belts can cause vibration, belt turnover, and belt breakage. Cogged belts should also be avoided in drives that require slippage during frequent stops and starts.