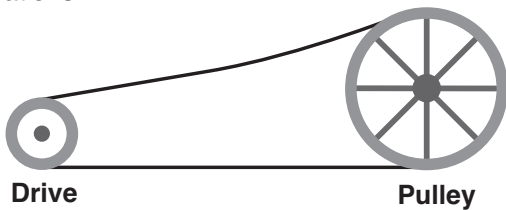


## Introduction

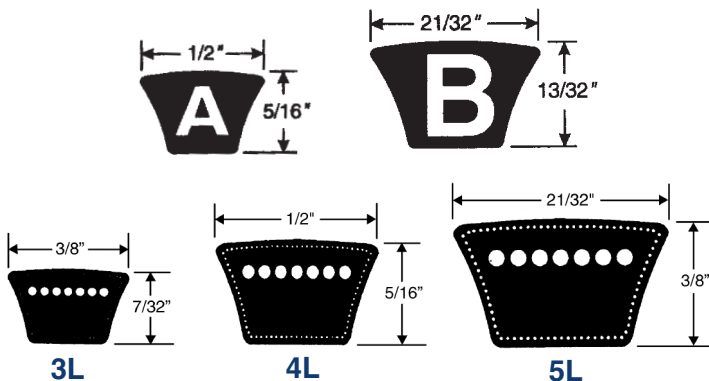
V-belt installations are used in a multitude of HVAC and refrigeration applications. They are efficient, quiet and reliable.

V-belts, applied with a system of pulleys, provide a method of transmitting power from one rotating shaft to another. It is estimated that about 1/3 of the electric motors in commercial and industrial installations are belt drive applications.



Typically, one rotating shaft serves as the drive and the other rotating shaft serves as the load. An electric motor supplies power to the drive shaft. Pulleys – sometimes referred to as sheaves – can be selected in different diameters. Pulley size differentials can be used to drive the rotating load at a different rpm from the drive shaft. The load can operate at a speed that is the same, or is higher or lower than the drive shaft.

A V-belt is designed to transmit power from the drive shaft to the load as efficiently and as quietly as possible. Rubber, reinforced with strands of chord, all molded or extruded into a geometric shape, forms a typical V-belt. The strands of chord might be composed of polyester or aramid, a synthetic material with heat resistant properties. The chord provides tensile strength. The rubber provides flexibility, friction and vibration/sound dampening to a power transmission system.

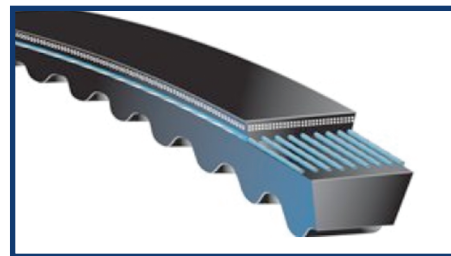


Various shaped belts have long been used for industrial power transmission, including round and flat shaped belts.

V-belt, the name, relates to the actual shape of a cross section of a belt. Simply, a V-belt has a trapezoidal cross section that looks like a “V”. The “V” of a V-belt fits into a pulley and makes contact with the inside flanges of the pulley’s groove. A properly designed installation of a V-belt will never allow contact of a V-belt underside with the bottom of a pulley.

V-belt installations generally have a peak efficiency of 95 to 98%. With normal wear, a V-belt loses efficiency over time. Causes of lost efficiency are both wear of the V-belt sidewall and wear of the facing pulley groove. Regularly scheduled preventive maintenance is an effective means of extending V-belt life. Re – tensioning, pulley alignment check, V-belt sidewall inspection and pulley groove inspection are critical components of a good preventive maintenance program.

Unusual vibration or “squealing” on start – up can be signs of belt wear, pulley or bearing wear and are cause for remedial action.



Motors & Armatures, Inc. distributes both Gates and MARS brand high quality V-belts.