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Products & Applications

# ***RIBBED BELTS*** **& V-Ribbed Pulleys**



**Drive solutions with Optibelt**

## Ribbed Belts

The ribbed belt combines the high flexibility of flat belts with the high performance of V-belts. The V-shaped parallel ribs are made from a wear-resistant rubber compound. The high strength tension cord is designed for the many applications of the ribbed belt. It is embedded in a rubber adhesive mixture and covers the entire width of the ribbed belt. Fibre-reinforced, wear-resistant rubber compounds ensure quiet operation, oil and heat resistance and a long belt life.

### Advantages and characteristics

- high efficiency
- very good dynamic power transmission capability
- good coefficient of friction and high performance
- low vibration and noise
- withstands shock loads and short-term overload
- high belt speeds possible

The small minimum pulley diameters permit drives with high speed ratios as well as small drive volume requirements. Ribbed belts are well suited for use with back bend idlers e.g. in serpentine drives.

## Examples for applications

### Mechanical engineering

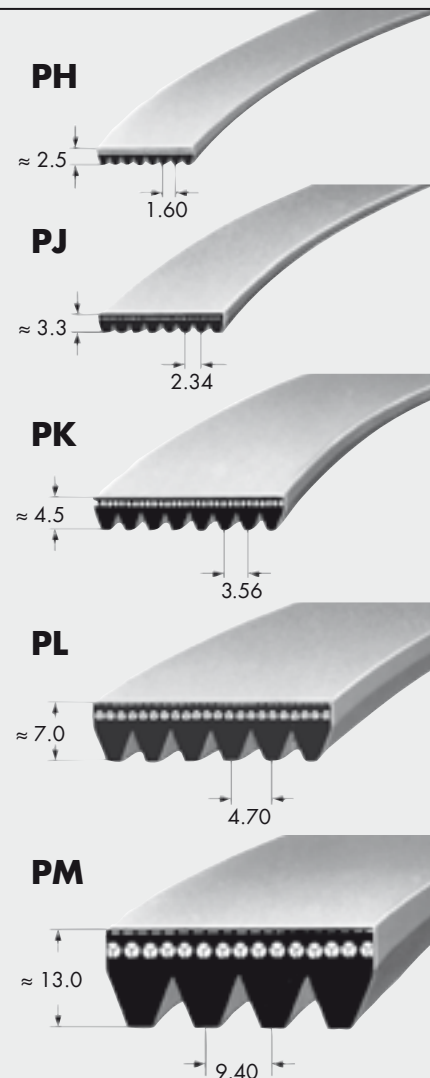
Milling machines and lathes  
Textile machines Spindle drives  
Paper machines  
Fan drives

### Household appliances

Washing machines  
Tumble driers  
Exercise equipment  
DIY equipment



### Sections: PH, PJ, PK, PL, PM



### Dimensions:

Belt lengths depend on the section, see the product range.

### V-ribbed pulleys:

Wide range of standard sizes, see the product range.  
Special pulleys on request.

## Elastic Ribbed Belts

Elastic ribbed belts sections EPH and EPJ consist of a

- superstructure
- elastic tension cord section
- base

The superstructure is made from a fibre-reinforced rubber mixture. The fibres are laid perpendicular to the direction of belt travel and stabilise the belt during dynamic operation. The tension cord is a high modulus polyamide material embedded in a rubber compound and covers the entire width of the ribbed belt.

The rib compound is characterised by a high wear resistance.

### Advantages and characteristics

- assembly is possible on fixed centres with no need for adjustment for belt tensioning
- easy assembly on the production line
- only one belt length can be used for different drive configurations
- good shock load resistance due to high elasticity of belt
- maintenance-free
- easy replacement

## Examples for applications

### Washing machines, driers

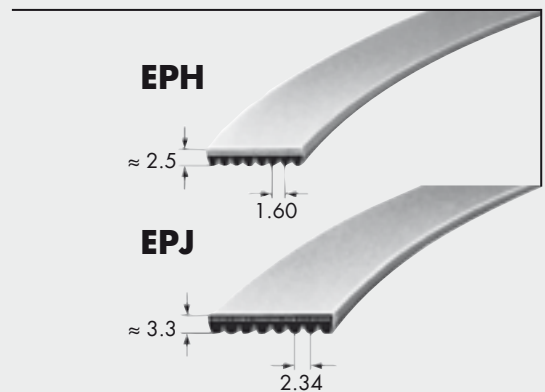
Ribbed belt sections EPJ and EPH

### Exercise equipment

Ribbed belt sections EPJ



### Profile: EPH, EPJ



### Dimensions:

Belt lengths depend on the section, see the product range.

### V-ribbed pulleys:

Wide range of standard sizes, see the product range.  
Special pulleys on request.

# Range of Applications

## Examples of Working Machines

### Steady loads with very small masses to be accelerated:

Stirrers for fluids with constant consistency, generators up to 0.05 kW, smaller conveyor belts for light weight goods, fans up to 0.05 kW, rotary pumps up to 0.05 kW

### Steady loads, small masses to be accelerated:

Conveyor belts for light weight goods, fans of 0.06 kW up to 0.1 kW, rotary pumps of 0.06 kW up to 0.1 kW

### Fluctuating loads with medium masses to be accelerated:

Shaker screens, mine fans, stirrers for fluids with variable consistency, printing presses, screw presses, wood working machines, conveyor belts for heavy goods, elevators, conveyor belts, fans over 0.08 kW, drilling machines, milling machines, grinding machines, light weight lathes, bakery machinery, rotary pumps over 0.11 kW, laundry machines

### Fluctuating loads with medium masses to be accelerated and medium shock loading:

Kneaders, mills, mixers, pumps, dryers, mills in general, centrifuges, stirrers for plastic masses with changing consistency, bucket chain conveyors, helical blowers, long block levellers, looms

### Fluctuating loads with large masses to be accelerated and heavy shock loading:

Paper machines, apron conveyors, clinker grinders, calendars, drilling appliances, heavy lathes, presses, profiling machines, punching machines, scissors, wire drawing machines, piston pumps up to 2 cylinders

### Fluctuating loads with very large masses to be accelerated, very heavy shock loading:

Excavators, grinding machines, high performance rolling mills, mixers, saw frames, calendars

## Special Drives

### V-Flat Drive

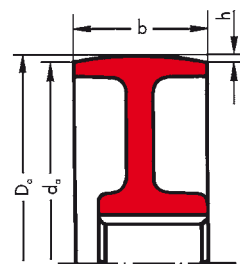
The V-flat drive consists of a V-ribbed pulley and a flat pulley. This type of power transmission can be favourable for drives with intermittent loads or with a high moment of inertia.

If a flat belt drive is changed to V-flat drive, it becomes more efficient in general if a larger flat pulley is in use.



The flat pulley should be cylindrical.

If a crowned flat pulley exists which is intended to be re-used in the V-flat drive, the crown height of the running surface must be checked.



$b$  = rim width of flat pulley

$D_o$  = outside diameter of flat pulley

$d_o$  = outside diameter without crown height

$h$  = crown height per 100 mm width of pulley rim