

APPLICATION

The Application where carbon Vanes being used are extensive.

Typical of these are :

- Dry running rotary compressors are vacuum pumps
- Mobile compressors fitted to bulk delivery tankers
- Printing Machine Compressor
- Spray Paint Equipments
- Packing Machinery
- Food Processing equipment
- Wet Running vane pumps and meters
- Automotive diesel fuel pumps
- Drink vending machines
- Fuel tanker meters

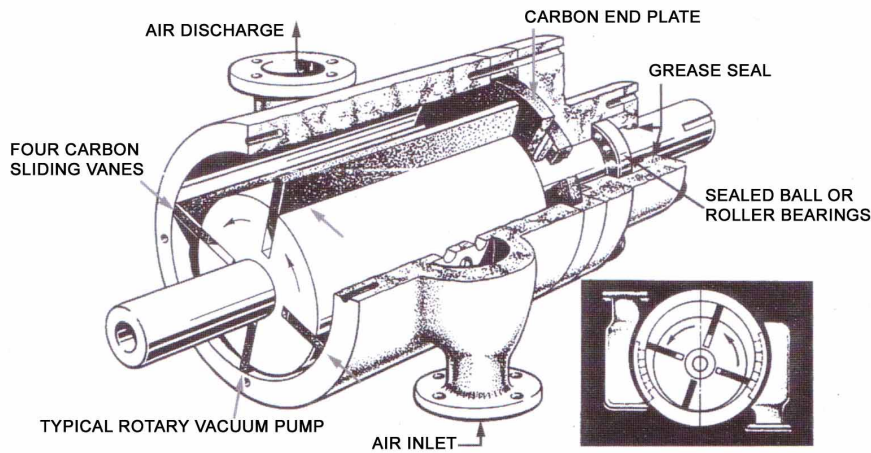
Carbon Vanes are made in the range of carbon materials (carbon Graphite, metal impregnated carbon-graphite and resin bonded graphite) to meet many different application requirement. All VSK Carbon grades retain the basic properties which make carbon unique as an engineering material, and particularly suited for Vanes which may operate in conditions beyond the limits of other material.

Carbon Vanes are self- lubricating and therefore ideal for pumps, handling liquids where lubricating properties are poor such as petrol. They can also operate in unlubricated compressors to deliver air or gas uncontaminated by lubricating oil or grease, In which case the carbon gives a fine polish to the cylinder wall which reduces the wear rate of the vane after bedding in to almost negligible proportions.

Carbon Vanes are Chemically inert and non-toxic and cannot contaminate the liquid or gas being handled. They can safely be used in food processing equipment and in other fields where purity is essential.

Carbon Vanes are totally unaffected by water, most acids, alkalis or oil solvents such as paraffin. In these conditions, the liquid can reduce friction and wear by providing lubrication between vane and rotor slots and vane top and cylinder wall.

One of the most important requirement for vane materials is high mechanical strength. Carbon Vanes meet this requirement. Their strength is indicated by the pressures regularly handled, which range from 3.2 kgf/cm² (44lbs/in²) down to high vacuum conditions. with peripheral speeds upto 12.7 m/sec (2500ft-min)



DESIGN

These Should be of robust proportions and of simple design, if possible rectangular in shape. Two main forces act on the vanes and tend to bend in their slots

1. the differential pressure across the thickness
2. the bending movement caused by tip friction against the cylinder wall. for small vanes lightly loaded, a thickness of 3.2mm (0.125in) has been found adequate for larger sizes and where the differential pressure is likely to be high

The Chart below is a general guide to the preferred dimensions for vanes. Vanes can, however, be machined to customer' specifications, provided that the proportions are acceptable from the design as well as from the manufacturing point of view