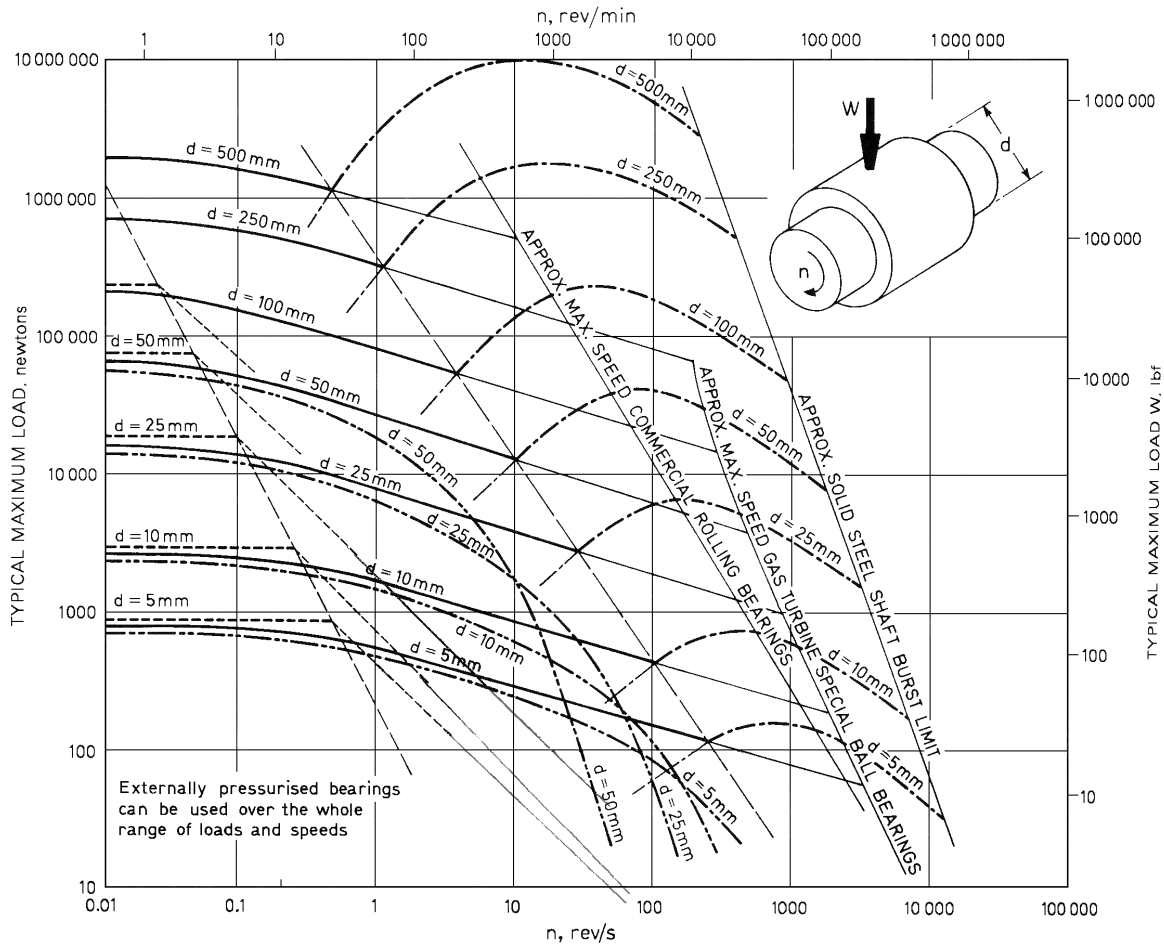


2.1

Selection of journal bearings



Rubbing plain bearings in which the surfaces rub together. The bearing is usually non-metallic



Plain bearings of porous metal impregnated with a lubricant.



Rolling bearings. The materials are hard, and rolling elements separate the two moving components.



Fluid film plain bearings. A hydrodynamic pressure is generated by the relative movement dragging a viscous fluid into a taper film.



Selection by load capacity of bearings with continuous rotation

This figure gives guidance on the type of bearing which has the maximum load capacity at a given speed and shaft size. It is based on a life of 10 000 h for rubbing, rolling and porous metal bearings. Longer lives may be obtained at reduced loads and speeds. For the various plain bearings, the width is assumed to be equal to the diameter, and the

lubricant is assumed to be a medium viscosity mineral oil.

In many cases the operating environment or various special performance requirements, other than load capacity, may be of overriding importance in the selection of an appropriate type of bearing. The tables give guidance for these cases.