(e) Backlash
Backlash is the amount of rotational play inherent in flexible couplings which utilize moving parts. In some applications this "slack" may not be objectionable, but In an application such as described In the previous paragraph backlash would rule out couplings of this type.

(f) Rotational Velocity Error
In addition to the types of error already described, universal joints produce an error because of their kinematic behavior. If the input speed Into a single universal joint is held constant, then the output will produce cyclic fluctuations in direct relation to the operating angles of the input and output shafts. This Will be described more fully in the section dealing with Universal Joints.

(g) Service Conditions.
Service conditions encompass factors such as temperature, operating medium, lubrication, accessibility for maintenance and should be reviewed before a final selection is made.

3.0 TYPES OF FLEXIBLE COUPLINGS
Most small to medium size couplings are basically one of three types.

3.1 Universal Joints
A universal joint is a linkage consisting of two yokes, one on each shaft, connected by spider as shown on Figure 2. Since universal joints are frequently used, and thee r analysis is complex, a separate section is devoted to them following this section.

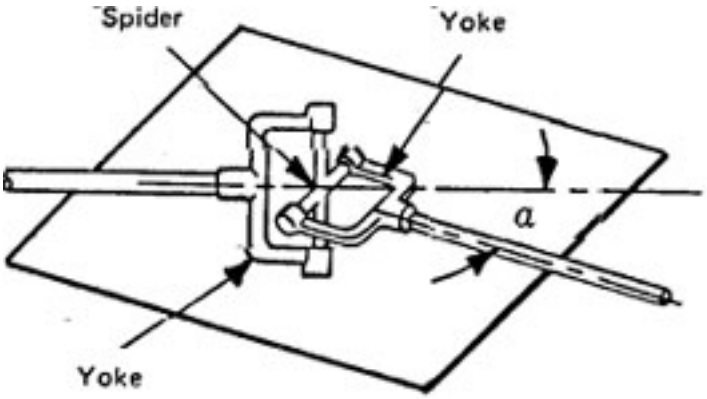

Figure 2 Spider and Yoke Construction

Figure 3 Elastomeric Construction

By substituting an elastomeric member in place of the conventional spider and yoke construction Such as in the design shown in Figure 3 backlash is eliminated. Lubrication is no longer a consideration because there are no moving parts and a fairly large amount of lateral misalignment can be accommodated. The Illustrated coupling is available in the product section of the catalog. Please refer to Figures 4 and 5 for specific design data for this type of Coupling.