Squeeze Film Dampers work to counteract rotordynamic instability and help reduce vibrations in rotating machinery. A Squeeze Film Damper adds a spring and dashpot in series between a bearing and the housing. In a rotor-bearing system, the Squeeze Film Damper:

- Allows significant shift in critical speeds
- Damps high resonances
- Reduces dynamic loads transmitted through the bearing, thereby increasing bearing life

Squeeze Film Dampers are not used as stand-alone products. Rather, the damper is always used in combination with a journal bearing. The following benefits are provided to the bearings:

- **ROLLING ELEMENT BEARINGS** lack internal damping and are very stiff – making such bearings difficult to use in high-speed applications. A Squeeze Film Damper provides the necessary damping and stiffness when the rotor is expected to operate above bending critical speeds.

- **ROCKER BACK TILTING PAD BEARINGS** suffer from pivot wear, brinelling and fretting due to the dynamic loads. The resulting increase in clearance may cause the rotor to become unstable over time. High dynamic loads can also cause failure of the Babbitt lining. These dampers significantly reduce the dynamic loads transmitted through the bearing.

- **PLIANT SUPPORT TILTING PAD BEARINGS** don’t have the same problems of rocker back tilting pad bearings. However, they can take advantage of the reduced transmitted dynamic loads, critical speed shift and better damping offered by the Squeeze Film Damper.

Our Squeeze Film Dampers are quite compact allowing them to be used in situations where space conservation is critical. A Pliant Support TPJB and Squeeze Film Damper combination is even more compact in size and is often used when a damper and bearing combination must be placed in space available for only a bearing.

D&S Engineered Products designs and fabricates Squeeze Film Dampers specific to each application. Full rotordynamic support is available to design the right damper for an application. Please contact us to discuss your requirements.