



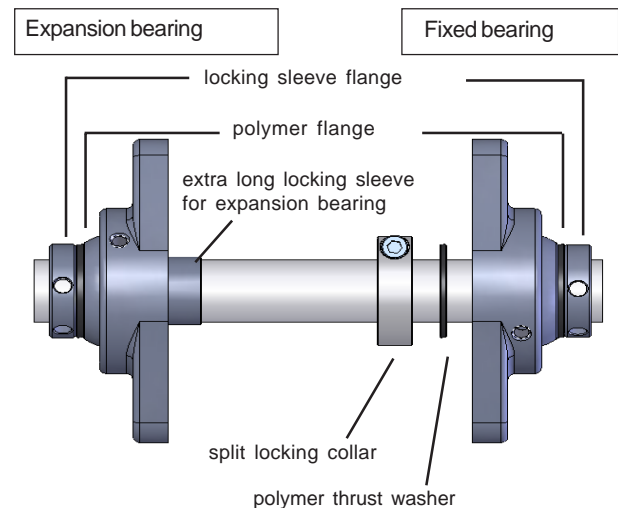
## Heat: Installing EDT bearings in High Temperature Locations

Heated locations like dryers, ovens and fryers are very common in many industries as food is cooked, bulk chemicals dried, fiber glass baked, and heat-treated metal parts quenched, etc. In high temperature applications, the expansion of different materials relative to each other causes design difficulties and must be addressed in the bearings that allow these heated devices to move.

Materials expand with increasing levels of temperature and things that are fixed at both ends of an expanding material will break. It is for this reason that expansion bearings came about. EDT's plane bearings work very well in high temperature conditions with a fixed bearing on the drive side of a device and an expanding bearing on the opposite side (see diagram).

### Bearing installation in High Temperature Locations

The fixed bearing is comprised of a standard EDT high temperature, greaseless plane bearing. This will be in a metal housing that has the locking sleeve flange on one side of the bearing and a high temp polymer washer and split set collar on the opposite side (of the same bearing). This allows control of the lateral movement of the shaft to be contained by just one bearing. The opposite floating bearing has an extended body on the locking sleeve and, as the locking sleeve is fixed to the shaft, it will slide through the bearing without shortening the effective bearing surface. The flange of this locking sleeve must be on the outboard side of the oven so that it can expand outward with the shaft expansion.



### Food grade high temp materials

Fryer bearings associated with food processing must in many cases be approved as a 'food ingredient'. EDT's FA bearing material makes the grade for temperature (operates to 550 deg F), for USDA/FDA criteria and for ease-of-maintenance. The drawback of 'FA' material is that it will lose its press when made in the ALL-ROUND® style of bearing so, in high temperature locations, the Poly-Round® bearing configuration is always recommended.



### High speed or tension locations

High temperature locations with high speed or tension (flat belt take-ups, pumps, fans operating above 300 deg F ambient temperature) will be well served with high temperature, solid lubricated ball bearings. Operating temperature must be specified and stainless, standard or 'special material' bearings are all available options.

### Threads

Since continuous expansion and contraction of metals will cause threaded products to vibrate loose, it is necessary to use an appropriate threadlocker on all setscrews. While there are always some exceptions, lubricants of all kinds should never be applied in hot applications.