



edt *Bearing Solutions*[®]

BY TIMKEN





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EDT specializes in manufacturing bearings for your industrial applications; not with a one-size-fits-all approach. From the most basic conveyor to the toughest application in your plant, EDT has solutions. With our broad range of products and options, our highly knowledgeable customer service and technical staff can help you find the right products for your applications.

EDT bearings are designed to meet the highest level of food safety and sanitation. Our bearings and accessories range from non-corrosive, grease-less, wash-down resistant, to extreme temperatures from cryogenic to 1,000°F for all kinds of movement.

The same products and features that survive food processing are useful in all kinds of manufacturing.

From receiving to shipping, EDT is your one source for bearings throughout the process floor.

What EDT Offers

- Over 35 years of designing and manufacturing bearings for all areas of the process floor
- Mounted and unmounted bearings
- Plane and ball bearing products that are sanitary, cleanable, and in many cases USDA/NSF accepted
- Grease-free and/or solid lubricated bearings
- Choices of housings, styles, materials, and bearing inserts for your applications
- Industry standard sizes and dimensions
- Custom and proprietary products available
- Manufacturing facility located in Vancouver, Washington, USA

Poly-Round® Bearings

EDT polymer plane bearings are the most efficient and effective way to eliminate lubricants from applications where grease is a problem. Washdown, extreme temperatures, chemicals, incomplete rotation, and abrasives degrade ball bearings. Poly-Round® bearings of the right material can withstand these issues.



Advantages of using Poly-Round® bearings

- 100% grease-less
- 100% non-corrosive, unaffected by moisture and process contaminants
- Eliminate product contamination concerns with no components that can break or get lost (no balls, seals, shields)
- USDA-accepted
- Direct interchange with insert ball bearings
- Eliminate catastrophic bearing failure
- Fully split units available
- Long and predictable operation
- Rotate an insert **180°** to double the life



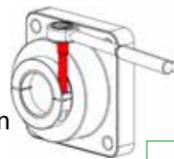
Poly-Round® bearings are manufactured from a variety of engineered polymers. Each material incorporates lubricity into its composition. Each formulation is suitable for various applications.

EDT MATERIAL SELECTION CHART

	Poly-Round® & All-Round® Bearing Materials	Color	PV Limit (MPA-M/S)	Max Speed V (M/S)	Max Loading P (MPA)	Temp Range	Chemical	Washdown	Submerged	ΔT Dimensions stability with temp change	Abrasion Resistance	Impact Resistance	Direct food contact	EC1935 / 2004 rated
BEARINGS	PA	White	0.04	0.25	5.52	Cry - 65°C	Excellent	Excellent	Excellent	Poor	Abrasion applications are very unpredictable. Each application must be tested for abrasion resistance. The best way to extend bearing life is to isolate the bearing.	Excellent	Yes	Yes
	AA	White	0.07	1.02	6.89	-40°C - 71°C	Fair	Excellent	Good	Fair		Fair	Yes	Yes
	OE	Brown	0.18	1.78	6.89	-40°C - 71°C	Good	Excellent	Good	Fair		Excellent	Yes	
	ON	Blue (metal det)	0.18	1.78	6.89	-40°C - 71°C	Good	Excellent	Good	Fair		Excellent	Yes	Yes
	NA	Grey	0.21	1.78	13.78	-40°C - 93°C	Good	Excellent	Good	Fair		Excellent	Yes	
	FA	White	0.21	1.78	6.89	-40°C - 260°C	Excellent	Excellent	Excellent	Poor		Excellent	Yes	
	QF	Black	2.10	2.03	41.36	Cry - 232°C	Excellent	Excellent	Excellent	Excellent		Fair	Yes	
	QB	Black-Green	1.75	2.03	20.68	-18°C - 260°C	Fair	Excellent	Poor	Excellent		Good	Yes	
	MZ	Black	0.21	1.52	27.57	-18°C - 343°C	Excellent	Excellent	Excellent	Excellent		Fair	Yes	
MY	Black	0.18	1.27	20.68	1°C - 427°C	Excellent	Excellent	Excellent	Excellent	Fair	Yes			
HOUSINGS	KG polymer housing	Not a bearing material				-40°C - 71°C	Excellent	Excellent	Excellent	Good	N/A	Good	Yes	
	ZA stainless housing	Not a bearing material				Cry - 538°C	Excellent	Excellent	Excellent	Excellent	N/A	Excellent	Yes	

Locking sleeves extend bearing life

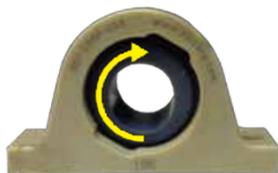
- 316 stainless material is tougher than most equipment shafting
- Protect shaft from normal wear caused by plane bearings and from abrasion
- Control lateral shaft movement (replaces a set collar)
- Placement over a worn shaft creates a new journal
- Exclusive KleanCap® screw is USDA-accepted, eliminates deep socket
- Available in four styles (each in various lengths)



EU102011



180° ADVANTAGE
When the centerline is no longer maintained, Poly-Round® inserts can be turned 180° to double the life.



DoubleLock® Sleeve
Clamps around the shaft with positive 360° contact for firm grip



Set Screw Locking Sleeve
Two-point contact on the shaft



Double Flange DoubleLock®
Controls lateral shaft movement in two directions



Split DoubleLock®
Fully split sleeve allows access on large shafts or hard-to-reach locations

Poly-Round® Bearing Assemblies

With no grease and non-corrosive components, Poly-Round® mounted assemblies reduce maintenance and exponentially increase process reliability over ball bearings. Poly-Round® bearings are available in four housing materials and numerous styles, plus a large range of sizes.



Identify the housing needed and the bearing requirements, then consider Solution® Poly-Round® bearings wherever there is:

- Food contact
- Washdown
- Intermittent operation
- Process moisture
- Powder or dirt
- High or low temperatures
- Bearing maintenance issues
- Safety or reliability concerns



Poly-Round® Poly-Round® Plus Poly-Round® Plus Guaranteed

Solution® Series Poly-Round® Assemblies

Poly-Round® inserts, with or without a locking sleeve, and a choice of non-corrosive housing materials means budgetary and sanitary requirements can be met whether Value pricing or Guaranteed performance is the goal.



QuiKlean® Poly-Round® Assemblies

EDT QuiKlean® housings are designed with 5/8" stand-off over the mounting surface, minimizing surface-to-surface contact where bacteria can hide. This, plus smooth surface finish and minimal crevices, has earned QuiKlean® housings USDA-acceptance. Available in five styles of polymer or stainless housings, and sizes 1/2" – 3-3/16" (12.7mm - 80.9mm).



Polymer Poly-Round® Assemblies

EDT's KG (gray) and KH (blue) polymer housings with choice of Poly-Round® inserts is the largest selection of cost-effective, maintenance free, corrosion resistant mounted bearings sold. Available in 11 styles of housings, for any shaft size between 1/2" – 3-3/16" (12.7mm - 80.9mm).



Production Stainless Poly-Round® Assemblies

Economical 304 stainless cast housings with choice of Poly-Round® inserts create a maintenance free, corrosion resistant unit available in six housing styles, for shaft sizes 1/2" – 1-1/2" (12.7mm - 38.1mm).



Machined Stainless Poly-Round® Assemblies

EDT's original stainless steel housings (304 or 316 ss) combined with choice of Poly-Round® inserts offers the ultimate in strength, cleanliness, corrosion resistance, and zero-maintenance functionality. Choose from 12 housing styles, for any shaft sizes between 1/2" – 3-7/16" (12.7mm - 87.3mm).

Ball Bearings

EDT's two kinds of stainless bearing inserts offer something for every budget and every application requirement. Select from the two ball bearing lines. Then choose the most suitable lubrication and specify the kind of housing. You can be assured of a Solution® mounted bearing that is exactly what you need.



Advantages of using EDT ball bearings

- Corrosion resistant
- Metal detectable with 400-series races and G16 balls; 304 ss cage and 302 ss flingers
- 2 styles of insert bearings available
 - Set screw locking, Value and Classic
 - Eccentric locking, Choice
- Wide inner ring for greater stability on the shaft
- Ideal in applications not suitable for plane bearings
 - Flat or v-belt tensioned drives
 - Round rubber or urethane belting
 - Curved conveyors
 - Side flexing tabletop chain
 - Direct motor drives
 - Overhung loads
 - High speed shafts



EDT Ball Bearing '4U'

EDT's eccentric bearings are ideal throughout the process floor. The opposing cams on the inner ring and collar provide 360° shaft contact for maximum locking. The eccentric collar eliminates cracked inner rings associated with stainless steel set screw bearings.

- Shaft sizes 1/2" – 3" (12.7mm - 76.2mm)
- Silicon seals
- All components are metal detectable
 - 440C ss balls and races
 - 300-series flingers and cage
 - 304 ss eccentric collar
- Food grade grease or any solid lubricant



EDT Ball Bearing '4Y'

EDT's classic set screw ball bearings are the original ball bearings designed for severe environments. Customizable with options for lubricants and seal / shield configurations, the Classic bearing can do it all.

- Shaft sizes 1/2" – 3" (12.7mm - 76.2mm)
- Silicon seals
- All components are metal detectable
 - 440C ss balls and races
 - 300-series flingers and cage
- Food grade grease or any solid lubricant



Stainless ER bearings are also available



Cylindrical insert bearings with or without a snap ring are available in stainless steel, with choice of lubricants

Solution® Housings

EDT exclusive KG polymer housings and machined stainless housings are the only USDA-accepted bearing housings available. The addition of production cast stainless and metal housings, plus multiple options for bearings, means EDT can be your one source for ALL of your mounted bearing requirements.



KG Polymer Housings 'G'

- Stronger and more resistant to process chemicals than injection molded housings
- Smooth, solid construction
- Designed for highest levels of sanitation
- Directly interchanges industry-standard mounted bearings
- Temperature range: -40° to 160°F/-40° to 72°C
- Sizes: 1/2" – 3-3/16" (12.7mm - 80.9mm) (203 – 216 ring)



Optically Detectable Blue Housings 'H'

- Blue is same wavelength as other optically detectable products
- Smooth, cleanable parts are ideal for HACCP / HARPC programs
- Dimensionally interchange industry standard mounted bearings in all sizes and styles from 1/2" to 3" (12.7mm - 76.2mm)
- Available with EDT's Poly-Round® plane bearing or stainless ball bearing



QuiKlean® Polymer or Stainless Housings '-QK'

- 5/8" integral stand-off allows 360° access for cleaning
- Integral stand-off eliminates gaps and crevices for maximum sanitation
- Sizes: 1/2" – 3-3/16" (12.7mm - 80.9mm) (203 – 216 ring)



Machined Stainless Housings 'A'

- 304 and 316 stainless for maximum corrosion resistance
- Smooth, solid construction
- Designed with highest levels of sanitation in mind
- Stronger than cast stainless
- Split housings available
- Sizes: popular 1/2" – 3-7/16" (12.7mm - 87.3mm) (203 – 218 ring)



Production Cast Stainless Housings 'P'

- 304 stainless for excellent corrosion resistance
- Desirable Imperial dimensions
- Bases are cast flat with no recesses
- Durable, functional
- Designed for use with heavy loads
- Excellent price-to-performance
- Sizes: 1/2" – 1-1/2" (12.7mm - 38.1mm) (204 – 208 ring)



Custom Polymer or Stainless Housings

- Modify standard styles or completely custom
- No minimum requirements
- 304 or 316 stainless, or KG polymer
- Sizes: 1/2" – 5" (12.7mm - 127mm)

Any of these inserts in any of EDT's housings (refer to page 5) combine to be an

"Solution® Series ball bearing"

The assembly you want, including the best lubrication for the process.



Solid Lubrication

In the increasingly stringent world of food safety, grease is an area of concern because of cross contamination. Solid lubrication can be an effective alternative to grease, eliminating issues of over-greasing, using the wrong kind of grease, or a lack of grease.



Advantages of solid lubricants

- Bearings never require re-lubrication
- Consistently deliver the right amount of lubrication
- Resists contamination
- Stands up to harsh applications and washdowns
- Dramatically improves cleanliness



Avoid contamination or lack of lubrication with solid lubricants

Ball and roller bearings are traditionally lubricated with grease and oils. Over-lubrication can often cause these to purge and contaminate the surrounding area. Traditional lubrication methods increase the cost of bearings through added labor to regrease, or expensive automated equipment.

EDT's solid polymer lubricants (EPL) and solid graphite lubricants (EGL) significantly reduce the problems associated with maintaining grease. They work by releasing lubrication when the balls are in motion, and reabsorbing it when the shaft is static. Because solid lubricants fill the area around the balls, they help exclude contaminants from interfering with the rolling elements; this is enhanced when seals and shields can be incorporated.

EPL and EGL extend bearing life by blocking out contaminants, resisting chemicals, and eliminating the need to regrease.



Whenever possible, EDT supplies solid lubricant with seals and flingers to isolate the lubricant from the environment.

EDT Lubricant Options

Lube	Properties	Temperature Range	Color
G	Multipurpose white H1 food grade grease	32° to 280°F / 0° to 140°C	White
N	Multipurpose industrial grade grease	20° to 350°F / -7° to 177°C	Green or Amber
F	Multipurpose white H1 food grade solid lube	-55° to 200° F / -48° to 93°C	White
E	Multipurpose industrial grade solid lube	-55° to 215°F / -48° to 102°C	Dark Gray
B	Low temperature H1 food grade solid lube	-65° to 200°F / -54° to 93°C	White
W	Multipurpose free spinning H1 food grade graphite solid lube	-150° to 250°F / -101° to 121°C	Black
V	Multipurpose free spinning higher speed graphite based H1 food grade solid lube	32° to 250°F / 0° to 121°C	Black
K	High temperature H1 food grade solid lube	-25° to 350°F / -32° to 177°C	White-Tan
I	High temperature industrial grade solid lube	-25° to 350°F / -32° to 177°C	Light Gray
M	High temperature free spinning graphite-based H1 food grade solid lube	32° to 450°F / 0° to 232°C	Black
R	High temperature H1 food grade synthetic	-25° to 450°F / -32° to 232°C	White
T	High temperature free spinning graphite-based H1 food grade solid lube	40° to 650°F / 5° to 343°C	Black
C	Multipurpose extreme chemical resistance H1 food grade solid lube	-33° to 350°F / -27° to 177°C	White

EGL solid lubricants that can operate in a vacuum are available

Note: solid lubrication slightly reduces the speed capacity of a bearing

Unmounted Bearings

When operating conditions prematurely fail deep groove ball and other unmounted bearings, EDT offers non-rolling element bearings for the right application.

Original
F6901-2RS

EDT RPR
OEF6901RPR



Radial Poly-Round® Bearings

Made of 316 stainless and high performance polymer, Radial Poly-Round® bearings interchange with industry standard radial ball bearings with the same advantages as Poly-Round® bearings in locations that are not conducive to maintaining rolling elements.

Advantages of EDT Radial Poly-Round® (RPR) bearings

316 stainless and high performance polymer bearings designed for movement in locations with both OD and ID press; dimensionally interchange deep groove ball bearings in various configurations.

- USDA-accepted
- 100% grease-less
- Completely non-corrosive
- Well-suited to HACCP/HARPC programs
- Choice of polymers depending on the application
- Available in most radial bearing sizes
- Custom configurations available



Radial Poly-Round® bearings are ideal in locations with these conditions

- Moderate to low speed rollers without tension, or free-spinning
- Oscillating or intermittent motion
- Process moisture (edible product, brine, chemicals, wash down)
- High temperature steam, hot water, cookers, retorts
- Operating over process lines and/or edible product



*Other bearing styles, materials, and types are available by request

Type E Solution® Bearings

EDT's Type E Solution® bearings are designed to operate where tapered roller bearings do not perform adequately, often subjected to process or wash down moisture or where food safety is a concern. EDT Type E bearings are capable of supporting high radial loads with ZERO lubrication and NO rusting, peeling, or seizing.



Advantages of Type E Solution® bearings

- USDA/NSF accepted
- Housing and bearings are 100% rust free
- Maintenance free: 100% grease-less bearings
- Can be mounted directly over the food product zone
- **180° Advantage**
- Housing can be reused over multiple bearing change-outs
- Available in pillow block, 4-bolt and piloted housings
- Split units available



Poly-Sphere® inserts are the key to long and reliable performance

Engineered with a full contact spherical OD and longer length thru bore maximizing load capacity

- Documented bearing life up to 2 years per side with the **180° Advantage**
- Split inserts available to mate with split housing and with split or one-piece sleeves
- QF Material
 - Offers maximum speed and load capacity of plane bearing options
 - Unaffected by most chemicals when operating at less than 400°F (204°C)
 - Cryogenic to 450°F (cryogenic to 232°C)
- NA Material
 - Moderate speed and load
 - Versatile, non-contaminating
 - -40° to 180°F (-40°C to 83°C)
- DoubleLock® sleeve options enhance longevity while maintaining critical fit



DoubleLock®



Double Flange DoubleLock®



Split DoubleLock®

Type E Solution® bearings are ideal for heavy applications that are prone to corrosion, or where food safety is a concern.

180° ADVANTAGE
When the centerline is no longer maintained, Poly-Round® inserts can be turned 180° to double the life.



General Service Applications

Poly-Round® and other polymer plane bearings are excellent alternatives to ball bearings because they need NO maintenance to keep running reliably. They are ideal in food processing because they are GREASE-LESS and completely non-corrosive. With the appropriate combination of polymer bearing and housing, Poly-Round® Solution® bearings are beneficial in many areas, many industries.

Modular Belt Conveyor Bearings

- 100% grease-less and zero-rust materials eliminate bearing-related product contamination
- USDA/NSF-accepted
- Ideal for HACCP/HARPC programs
- Assembly options for operation at any temperature: ambient, hot or cold
- Reduce maintenance costs with longer life, no regreasing, no production delays caused by bearings



Split Bearings

- Fully split bearings for easy installation and replacement
- Stainless steel and plane bearing construction is ideal for mounting over food product zone
- 100% grease-less, no-rust bearings are maintenance free
- Available for temperatures from cryogenic to 850°F (cryogenic to 454°C)
- Available for shaft sizes 1/2" – 5" / (12.7mm - 127mm) (larger sizes are split Type E, see page 8)



Metal Detectable Bearings

- 'ON' bearing material is detectable three ways:
 - Metal detectable
 - X-ray detectable
 - Optically detectable
- Stainless housings
- 100% grease-less
- Available in all bearing styles
- USDA/NSF-accepted



Specialty Bearings

A variety of specialized equipment facilitates modern food processing. Different products pose different bearing maintenance challenges to keep production running smoothly. EDT has developed drop-in replacement bearings for many specific applications. These provide longer and more reliable bearing life, and a cleaner processing environment while reducing maintenance and lowering costs of ownership.

Breader Bearings

- Corrosion-resistant stainless housings and ball bearings
- Solid lubricated to eliminate grease and to protect the rolling elements from the breading
- Replaceable food grade exclusionary seals provide second layer of protection from abrasives



- A. Designed to be used on the top and bottom of the vertical auger
- B. Designed as a drop-in replacement for the OEM babbitt bearing. EDT's QuiKlean® housing offsets the bearing from machine, providing space to keep breading from the bearing



B

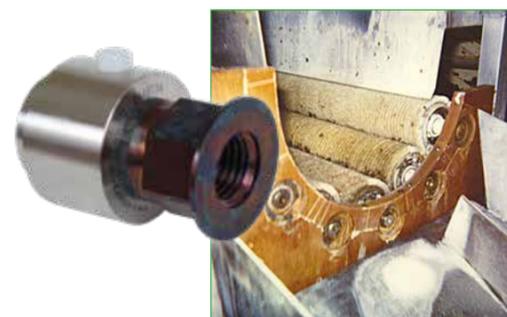
“Sealed for Life” Mounted Bearings

- Eliminate the chance of over-greasing ball bearings
- EDT housings are shipped with both a grease fitting and a set-screw to plug the hole (select plug)
- Option to purchase housings that are not tapped for any fitting



Peeler/Scrubber Bearings

- Designed to operate in the wet/discharge end of peelers
- 100% grease-less bearings require ZERO maintenance
- Stainless components will not rust or fret the shaft
- Polymer bearing lasts one full season – convenient replacement when brushes are changed out
- Reusable components reduce costs of ownership



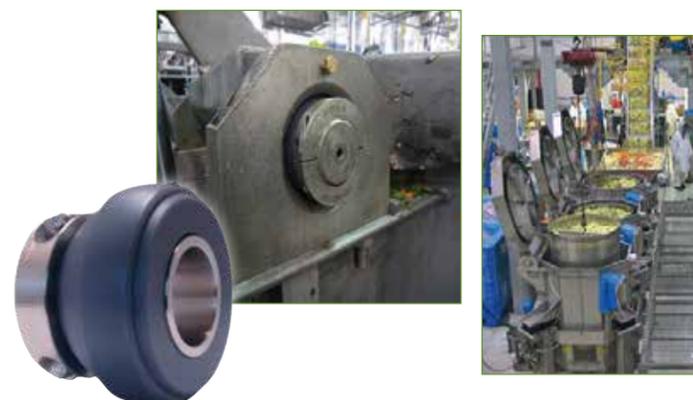
Fryer Sediment Auger Bearings

- High performance metal plane bearing operates in hot oil
- Excellent abrasion resistance to fines
- Extended up-time between maintenance cycles
- Eliminate shaft damage



Salad Dryer Bearings

- Eliminate bearing-related product contamination
- Poly-Round® bearing never rusts and is 100% grease-less
- Unaffected by wash down and process moisture
- Locking sleeve protects shaft and extends bearing life



Sanitary Bearings: Ideal for Food and Other Processing

EDT understands the food safety and reliability demands of the food industry. Other industries face similar issues, so these and other targeted bearing products have applications on similar equipment and processes. Talk to EDT about bearing-related problem areas, and we will work with you to develop a Solution® that improves productivity and food safety with measurable benefits.

Weigh Scale Buckets

- Save money with less frequent bucket rebuilds
- Direct interchange parts require no equipment modification to use

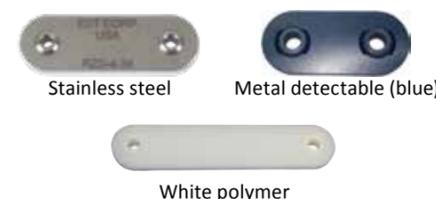


Radial Poly-Round® bearings

- Stainless and polymer wear components never rust or fret the shaft
- Eliminate balls and increase food safety
- Customized parts can combine pieces and reduce number of components

Linkages

- Eliminate rust
- Longer life and lower maintenance
- Three non-corrosive materials available



Mixer Bearings

- Tapered roller bearing dimensional retrofit
- 100% grease-less and zero-rust materials eliminate bearing-related product contamination
- Choices of materials suitable for temperatures from cryogenic to 500°F (cryogenic to 260°C)
- Fully split units significantly reduce maintenance costs



Fryer Bearings

- Materials are high-temperature capable; ideal in hot oil, hot water, and chemicals
- Maintenance free: 100% grease-less bearings
 1. 'FA' Poly-Round® eliminates balls, seals and shields
 - 'FA' is direct food contact approved
 - Reduces collateral damage
 - Stands up to the harsh cleaning chemicals
 - 18-month zero-maintenance life is typical
 2. EGL stainless ball bearing for locations with tension or torque
 - 'M' lubricant is H1 rated
 - 'M' lubricant is unaffected by caustics
 - Good resistance to abrasive fines
- Housings can be reused to reduce costs of ownership





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