



BY TIMKEN

**EDT HAS BEARINGS
FOR ALL AREAS OF
BEEF PROCESSING**

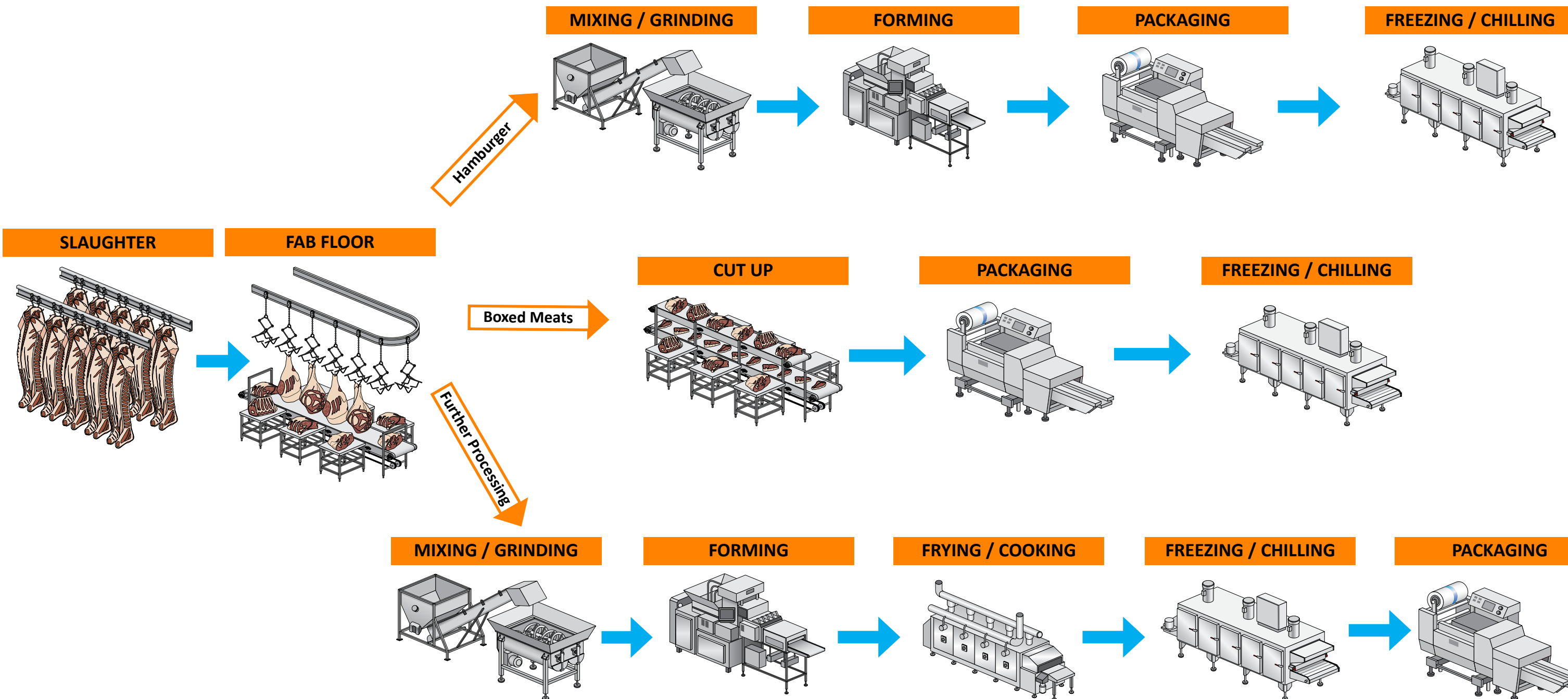
BEEF



From receiving to shipping, EDT bearings contribute to:

- Improved Food Safety
- Longer Life
- Lower Maintenance

| SLAUGHTER | FAB FLOOR | CUT UP | MIXING / GRINDING | FORMING | FRYING / COOKING | FREEZING / CHILLING | PACKAGING |
|--|---|---|---|---|---|---|--|
| Carcass washers Blood table rollers Offal Saws Bone conveyors Mud conveyors | Saws Modular plastic belt conveyors Trim conveyors Product conveyors Sprocket driven urethane belts Bone conveyors Conveyor return rollers Metal detectors | Modular plastic belt conveyors Sprocket driven urethane belts Metal detectors | Ribbon mixers Blenders Screw conveyors Tote dumps Modular plastic belt conveyors Sprocket driven urethane belts Metal detectors | Injectors Process equipment: mounted bearings Process equipment: unmounted bearings Wire belt conveyors Modular plastic belt conveyors Metal detectors | Breaders Fryers Oven support bearings Wire belt conveyors Modular plastic belt conveyors Microwave ovens Branders | Nitrogen freezers Spiral freezers Wire belt conveyors Modular plastic belt conveyors Scales | Scales Packaging machines Shrink wrap tunnels Tray pack machines Vacuum sealers Check weighers Modular plastic belt conveyors Metal detectors |



In all areas of beef processing, EDT bearings improve operations AND help the bottom line

| Maintenance Issues | | |
|--------------------|---|---|
| Reference No. | Issues | Causes |
| 1 | Frequent bearing replacement | Heavy contamination with insufficient bearing lubrication |
| 2 | Proper lubrication requires considerable maintenance time | Heavy wash down and process moisture |
| 3 | Product contamination concerns from rusting bearings, housings | Heavy wash down, high process moisture, grease protects bearings from rust but style or location prohibits re-lubricating ball bearings |
| 4 | Catastrophic bearing failure can halt production | Load too high for stainless bearing |
| 5 | Set screws back out, over-tightening causes cracked inner rings and broken bearings | Stainless set screws in stainless housings don't seat, vibrate loose; over-tightening is typical response and brittle 440C rings crack |
| 6 | Extreme temperature (<32°F or >200°F) affects lubricant to detriment of production | Low temperature congeals grease; high temperature liquefies grease, and balls have insufficient lubrication |

| Processing flow challenges and EDT bearing solutions | | | | | |
|--|---------|--|---------------------------------------|---------|--|
| Applications / Machinery | Issues | EDT Product Solution | Applications / Machinery | Issues | EDT Product Solution |
| Slaughter | | | Forming | | |
| Carcass washers | 1,2,3,4 | Solution® mounted Poly-Round® or solid lubricated ball bearings (consider eccentric); Type E Solution® bearings | Injectors | 1,2,3,4 | Solution® mounted Poly-Round® bearings or solid lubricated ball bearings (consider eccentric) |
| Blood table rollers | 2,3 | Solution® mounted Poly-Round® bearings | Process equipment: mounted bearings | 2,3,5 | Solution® mounted eccentric solid lubricated ball bearings |
| Offal | 2 | Solution® mounted Poly-Round® bearings; Type E Solution® bearings | Process equipment: unmounted bearings | 1,3,4 | Solid lubricated radial ball bearings |
| Saws | 2,3 | Solid lubricated radial ball bearings | Wire belt conveyors | 1,2,3,4 | Solution® mounted Poly-Round® bearings or solid lubricated ball bearings (consider eccentric) |
| Bone conveyors | 1,2,3 | Solution® mounted Poly-Round® bearings; Type E Solution® bearings | Modular belt conveyors | 1,2,3,4 | Solution® mounted Poly-Round® bearings or solid lubricated ball bearings (consider eccentric) |
| Mud conveyors | 1,2,3 | Solution® mounted Poly-Round® bearings; Type E Solution® bearings | Metal detectors | 1,2,3 | |
| Fab Floor | | | Frying / Cooking | | |
| Saws | 2,3 | Solid lubricated radial ball bearings | Breaders | 1,2,3,4 | Solution® solid lubricated ball bearings |
| Modular plastic belt conveyors | 1,2,3,4 | Solution® mounted Poly-Round® bearings or solid lubricated ball bearings (consider eccentric) | Fryers | 1,2,4,6 | Solution® mounted high temperature Poly-Round® bearings |
| Trim conveyors | 1,2,3 | | Oven support bearings | 1,2,6 | Solution® mounted high temperature Poly-Round® bearings or solid lubricated ball bearings (consider eccentric) |
| Product conveyors | 1,2,3,5 | | Wire belt conveyors | 1,2,3,4 | Solution® mounted Poly-Round® bearings or solid lubricated ball bearings (consider eccentric) |
| Sprocket driven urethane belts | 1,2,5 | | Modular plastic belt conveyors | 1,2,3,4 | Solution® mounted Poly-Round® bearings or solid lubricated ball bearings (consider eccentric) |
| Bone conveyors | 1,2,3 | Solution® mounted Poly-Round® bearings; Type E Solution® bearings | Microwave ovens | 1,2,3,5 | |
| Conveyor return rollers | 1,2,3 | Solution® mounted Poly-Round® bearings | Branders | 1,2,6 | Solution® mounted high temperature Poly-Round® bearings |
| Metal detectors | 1,2,3 | Solution® mounted Poly-Round® bearings or solid lubricated ball bearings (consider eccentric) | Freezing / Chilling | | |
| Cut up | | | Nitrogen inline freezers | 1,2 | Solution® mounted Poly-Round® bearings (low temperature) |
| Modular plastic belt conveyors | 1,2,3,4 | Solution® mounted Poly-Round® bearings or solid lubricated ball bearings (consider eccentric) | Spiral freezers | 1,2,3,4 | Solution® mounted solid lubricated eccentric ball bearings (low temperature) |
| Sprocket driven urethane belts | 1,2,5 | | Modular plastic belt conveyors | 1,2,3,4 | Solution® mounted Poly-Round® bearings or solid lubricated ball bearings (consider eccentric) |
| Metal detectors | 1,2,3 | | Wire belt conveyors | 1,2,3,4 | |
| Mixing / Grinding | | | Scales | 2,3 | Radial Poly-Round® and solid lubricated radial ball bearings; scale links |
| Ribbon mixers | 2,3,4 | Type E Solution® and RPB (split bearing) interchanges | Packaging | | |
| Blenders | 2,3,4 | | Scales | 2,3 | Radial Poly-Round® and solid lubricated radial ball bearings; scale links |
| Screw conveyors | 2,3,4 | Solution® mounted Poly-Round® bearings; Type E Solution® or RPB (one piece or split). On drive end: use solid lubricated ball bearings | Packaging machines | 1,3 | Solid lubricated radial ball bearings; 316 ss radial bearings on bag machine dancer bars |
| Tote dumpers | 1,2,3,4 | Solution® mounted Poly-Round® bearings or block bearings | Shrink wrap tunnels | 1,3 | Solution® mounted Poly-Round® bearings or solid lubricated ball bearings (consider eccentric) |
| Modular plastic belt conveyors | 1,2,3,4 | Solution® mounted Poly-Round® bearings or solid lubricated ball bearings (consider eccentric) | Tray pack machines | 1,3 | Solid lubricated radial ball bearings |
| Sprocket driven urethane belts | 1,2,5 | | Vacuum sealers | 1,3,5 | Solid lubricated radial ball bearings |
| Metal detectors | 1,2,3 | | Check weighers | 1,2,3,5 | Solution® mounted Poly-Round® bearings or solid lubricated ball bearings (consider eccentric) |
| | | | Modular plastic belt conveyors | 1,2,3,4 | Solution® mounted Poly-Round® bearings or solid lubricated ball bearings (consider eccentric) |
| | | | Metal detectors | 1,2,3 | |

EDT Products

Poly-Round® bearings



EDT polymer plane bearings are the most efficient and effective way to eliminate lubricants when grease is a problem. Wash down, extreme temperatures, chemicals, incomplete rotation, and abrasives degrade ball bearings; Poly-Round® inserts of the appropriate material for the application can withstand these environments.

- USDA accepted
- 100% grease-less
- Zero grease, zero rust
- Variety of polymer inserts, including metal detectable
- Long and predictable operation can be extended with 180° rotation of the insert when worn too far in one direction
- Fully split units available
- Shaft sizes 1/2" to 4" (12.7mm to 101.6mm); all housing styles in stainless or exclusive 'KG' polymer

Mounted ball bearings



Stainless steel or 'KG' polymer material bearing housings with a wide selection of ball bearing inserts to choose from:

- Stainless steel or other material
- Set screw locking or eccentric
- Value, Classic or Choice inserts
- Greased or solid lubricated
- Available for every shaft size from 1/2" to 3-7/16" (15 mm to 90 mm)
- Good stock
- Custom housings are available
- Blue optically detectable polymer housings available

Block bearings



EDT block bearings are one-piece blocks of bearing-grade polymer that dimensionally interchange with industry-standard mounted bearings. These are the original "sanitary bearing" with smooth surfaces and solid construction.

- Zero grease, zero rust
- Unaffected by wash down
- USDA and NSF accepted
- Can be used with or without a locking sleeve
- Well suited to locations with high impact such as conveyor ends or dumpers

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.

- USDA/NSF accepted
- Housing and bearings 100% rust free
- Maintenance free: 100% grease-less
- Can be mounted directly over the food product zone
- Available in pillow block, 4-bolt, and piloted styles
- Split units available

Solid lubrication



With increasingly stringent food safety mandates, solid lubricants can be effective alternatives to grease. Solid lubes help exclude contaminants from interfering with rolling activity by filling the area around the balls. They eliminate issues of over-greasing, using the wrong kind of grease, or a lack of grease.

Options for polymer-based (EPL) and graphite-based (EGL) solid lubricants with:

- Food grade and non-food formulations
- Capacity for operating in temperatures from -250°F to +650°F (-157°C to 343°C)
- Seals and/or flingers are reinstalled, but bearings can also be provided with the solid lubricant open for visual inspection and maximum content

Choose lube based on operating environment; consider moisture, contamination, temperature, requirement for low friction, vacuum, or other circumstances.

Radial Poly-Round® bearings

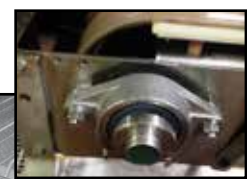
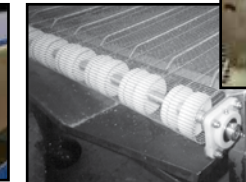
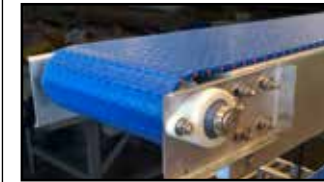


EDT Radial Poly-Round® bearings (RPR's) are manufactured from bearing grade polymers and 316 stainless components, and are designed to directly retrofit deep groove ball bearings and other styles of radial bearings.

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

Applications

Throughout the plant Conveyors



Poly-Round® Solution® bearings are 100% grease-less and non-rusting. Reliable performance, clean operations and long life eliminate red water and regreasing after wash down. Ideal on modular plastic and wire belt conveyors, sprocket driven urethane belts, and conveyor return rollers.

Metal Detectors

Choose EDT solid lubricated ball bearings on flat belt conveyors. Solid lubricant eliminates issues relating to maintaining grease.



Slaughter



Poly-Round® bearings are unaffected by harsh environments of carcass washers, blood tables and offal, unlike other bearings.

Mixing / Grinding

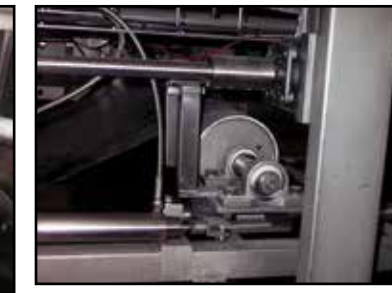


Look to grease-less Poly-Round® bearings for:
Dumpers where there is only partial rotation
Clean operation over edible product

Clean and reliable operating mixer/blender auger bearings

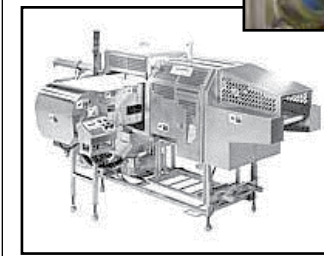
Idle end support bearings that require zero maintenance

Frying / Cooking



By selecting the optimum Poly-Round® bearing and housing material, you can have bearings that reduce maintenance and production downtime, even in the most challenging processing areas, including breading, frying, baking and branding.

Packaging



Poly-Round® bearings, including blue metal detectable inserts, add an extra level of food safety in locations around edible product like shrink wrap tunnels and any sprocket-driven packaging equipment.

For high speed locations that operate under tension, like some packaging machines and baggers, solid lubricated mounted and unmounted ball bearings improve reliability and food safety.



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