

JBT FoodTech

LUBRICATION MANUAL

Frigoscandia | Stein | DSI | Northfield



Index

Machine Lubrication Points

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|---|---|

Note: Info not available for all lubricants
MSDS sheets available per request



Introduction

Definitions

Specialty Lubricants: Lubricants that do not fit into a specific category such as silicon fluid for low-tension freezers.

Greases: Semisolid lubricants containing a soap thickener emulsified with an oil. These have a high initial viscosity which drops to the viscosity of the oil when shear is applied. This is useful for mechanisms that can only be lubricated infrequently and where a lubricating oil would not stay in place such as a bearing.

Conveyor Lubricants: Lubricating oils designed specifically for belt drive systems in both very high and very low temperature equipment.

Gear Lubricants: Lubricating oils designed specifically for gearboxes in both very high and very low temperature equipment.

Compressor Oils: Lubricating oils designed specifically for refrigeration compressors and vacuum pumps in low temperature equipment.

Hydraulic Oils: Oils used to lubricate and transfer energy within a hydraulic system. These also provide anti-wear and rust inhibition as well as ensuring deposit free operation.

General Purpose Lubricants: Lubricating sprays that can be used on many different types of equipment throughout a plant.

Lubrication Table Example

Position number on machine Number of lubrication locations on machine Frequency of lubrication

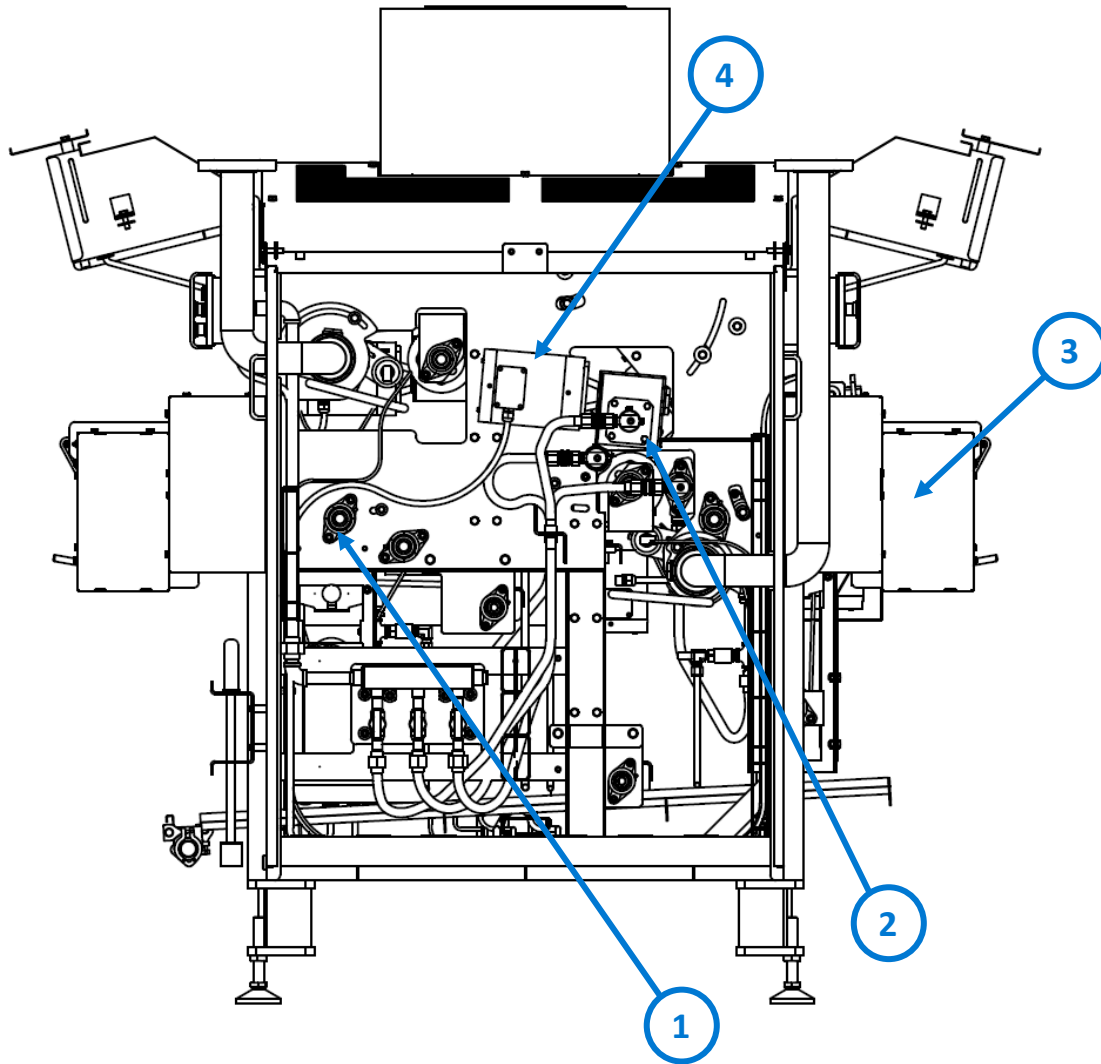
| Pos. # | Location | Qty | Description | Frequency | | | |
|--------|-----------|-----|-----------------|-----------|--------|---------|-----------|
| | | | | Daily | Weekly | Monthly | Bi-Yearly |
| 1 | Bearings | 8 | Formula 312 | X | | | |
| 2 | Casters | 4 | | | X | | |
| 3 | Gearboxes | 6 | Formula 5460 FG | | | X | |
| 4 | Motors | 6 | Formula 360 | | | | X |

Description of location on machine Formula name of lubricant

For more information on these lubricants including how to order, go to www.jbtfoodtech.com, call 1-800-408-7788, or email us at customer@jbt.com

Marking and Searing

Machine Shown: CMII



| Pos. # | Location | Qty | Description | Frequency | | | |
|--------|------------|-----|-----------------|-----------|--------|--------------|--------------|
| | | | | Daily | Weekly | Monthly | Yearly |
| 1 | Bearings | 40 | Formula 377 | Lubricate | | | |
| 2 | Gearboxes | 2 | Formula 5460 FG | | | Inspect/Fill | Drain/Refill |
| 3 | Chain Lube | 2 | Formula 8414 | | | Lubricate | |
| 4 | Motors | 2 | Formula 360 | | | | Inspect/Fill |

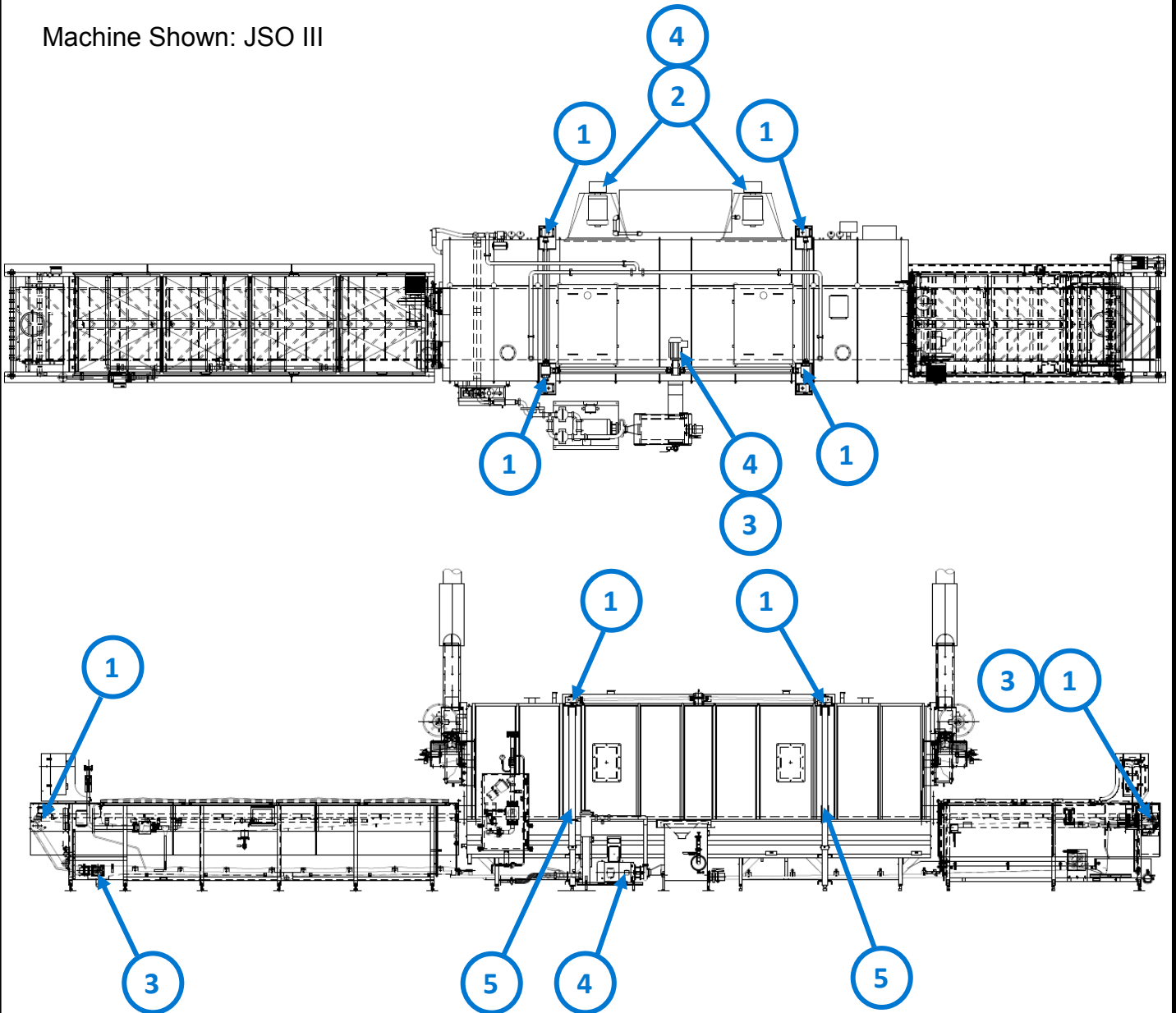
Quantities may vary per machine or configuration

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Linear Ovens

Machine Shown: JSO III



| Pos. # | Location | Qty | Description | Frequency | | | |
|--------|----------------|-----|-----------------|-----------|--------|---------|-----------|
| | | | | Daily | Weekly | Monthly | Bi-Yearly |
| 1 | Shaft Bearings | 24 | Formula 377 | X | | | |
| 2 | Fan Bearings* | 10 | | | X | | |
| 3 | Gearboxes | 4 | Formula 5220 FG | | | X | |
| 4 | Motors | 4 | Formula 360 | | | | X |
| 5 | Lift Post | 4 | Formula 388 | | X | | |

*Vent fans not shown

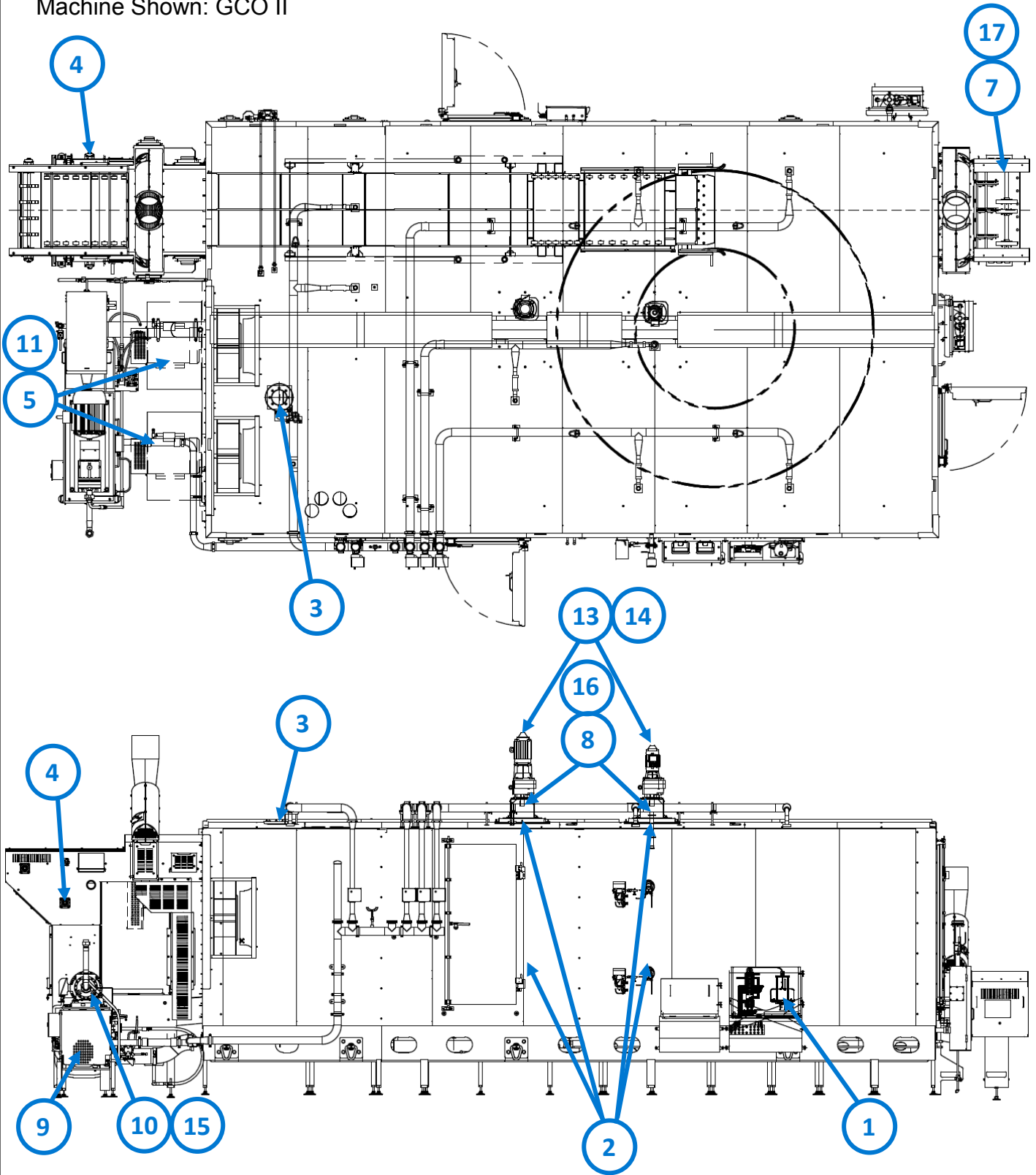
Quantities may vary per machine or configuration

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Spiral Ovens

Machine Shown: GCO II



Spiral Ovens

Lubrication Bill of Materials: GCO II

| Pos. # | Location | Qty | Description | Frequency | | | |
|--------|--------------------------------|-----|--------------------|-----------|--------|---------|--------|
| | | | | Daily | Weekly | Monthly | Yearly |
| 1 | Auto Lube System | 1 | Formula 491 or 499 | X | | | |
| 2 | U-Joints On Drives | 4 | Formula 377 | X | | | |
| 3 | Fresh Air Damper Links | 2 | Formula 312 | | | X | |
| 4 | Discharge Idler Shaft Bearings | 2 | Formula 377 | | X | | |
| 5 | Circ. Fan Bearings (2 Per Fan) | 2 | | | X | | |
| 6 | Vent Fan Bearings* (2 Per Fan) | 2 | | | X | | |
| 7 | Infeed Bearings | 2 | | | X | | |
| 8 | Upper Drive Bearings | 2 | | | X | | |
| 9 | CIP Pump Motor Bearings | 1 | Formula 360 | | | X | |
| 10 | Belt Wash Pump Motor Bearings | 1 | | | | X | |
| 11 | Circ. Fan Motor Bearings | 2 | | | | X | |
| 12 | Vent Fan Motor Bearings* | 2 | | | | X | |
| 13 | Drive Motors | 2 | | | | X | |
| 14 | Drive Gearbox | 2 | Formula 5220 FG | | | | X |
| 15 | Belt Wash Pump Oil | 1 | Nonlabeled 1 | | X | X** | X |
| 16 | Chain Coupling On Top | 1 | Formula 8414 | | X | | |
| 17 | Belt Mold Release | 1 | Formula 201 | X | | | |
| 18 | Glide Strip Break In*** | 1 | Formula 8008 | | | | X |
| 19 | Floor Cooling**** | 1 | JBT PProTHERM | | | X | |

*Vent fans not shown

**Change after 500 hours, then annually; check level weekly

***Use for break-in during rebuilds (not shown)

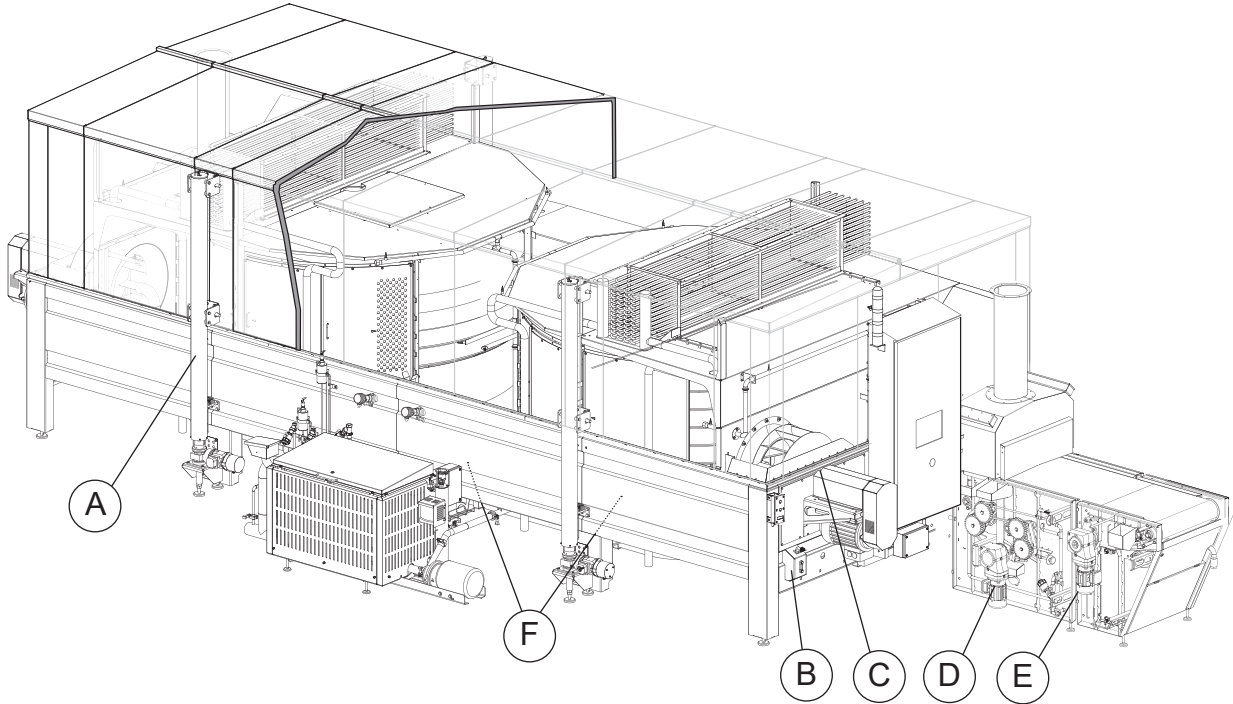
****Floor cooling if used (not shown)

Quantities may vary per machine or configuration

Spiral Ovens

Machine Shown: TDO 600

LUBRICATION

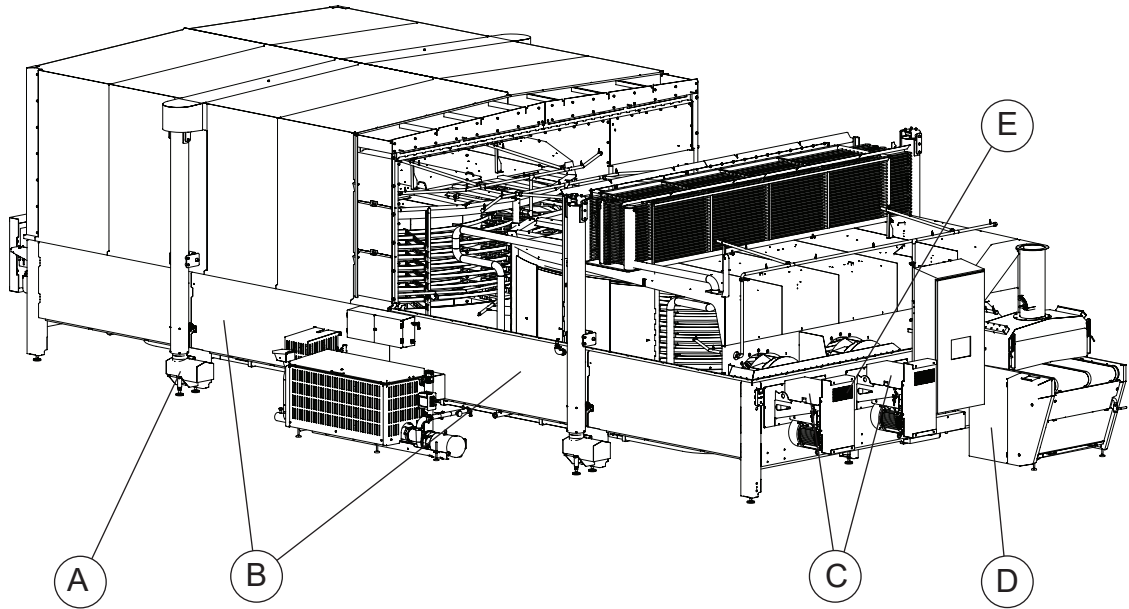


| Position | Lubricating location | Lubricant | | Remarks | Monthly | Yearly |
|----------|-----------------------------------|--------------|--------------------|-------------|---------|--------|
| | | Type | Qty. | | | |
| A | Hood Lift System | Grease L-116 | | Lubricate | X | |
| B | Drum Gears | | | | | |
| | Gear Box | Oil L-123 | | Check level | X | |
| | Gear Box | Oil L-123 | 1.0 | Change oil | | X |
| C | Fan Bearings | | | | | |
| | Bearing | Grease L-122 | | Check level | X | |
| D | Continuous Belt Wash Motor | | | | | |
| | Gearbox | Oil L-110 | | Check level | X | |
| | Gearbox | Oil L-110 | 1.0 | Change oil | | X |
| E | Infeed Drive Motor | | | | | |
| | Gearbox | Oil L-110 | | Check level | X | |
| | Gearbox | Oil L-110 | 1.0 | Change oil | | X |
| F | Lower Drum Bearings | | | | | |
| | Drum bearing | Grease L-125 | 100 ml/ bearing | Lubricate | | X |

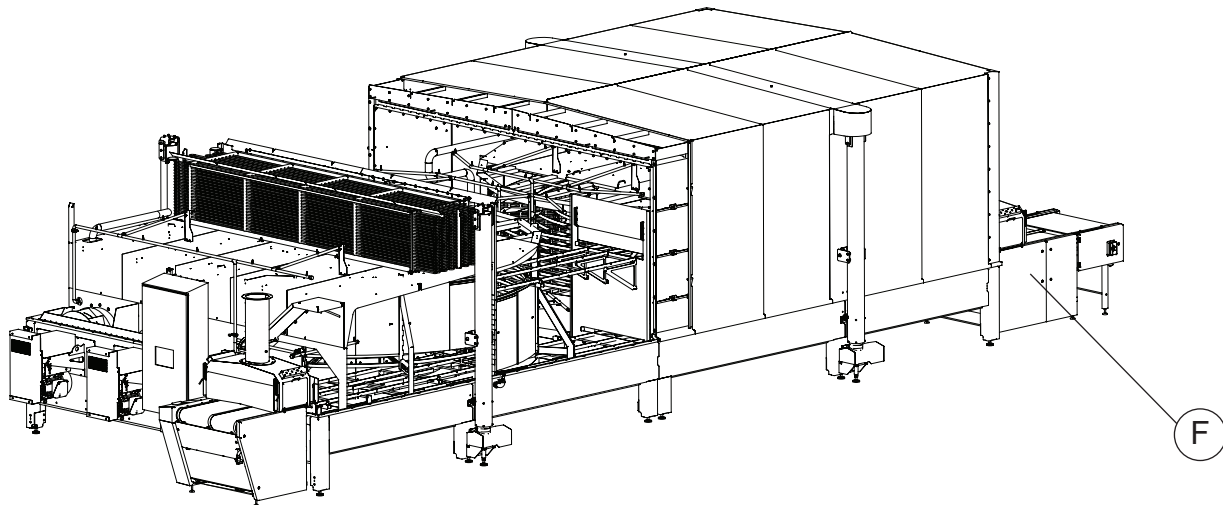
Note: Electric motors should be re-greased when overhauled. Normally electric motors are delivered without grease nipples. Overhaul and re-grease motors during bearing change or when a motor is dismantled for other reasons.

Spiral Ovens

Machine Shown: TDO 1000



Outfeed view



Infeed view

Spiral Ovens

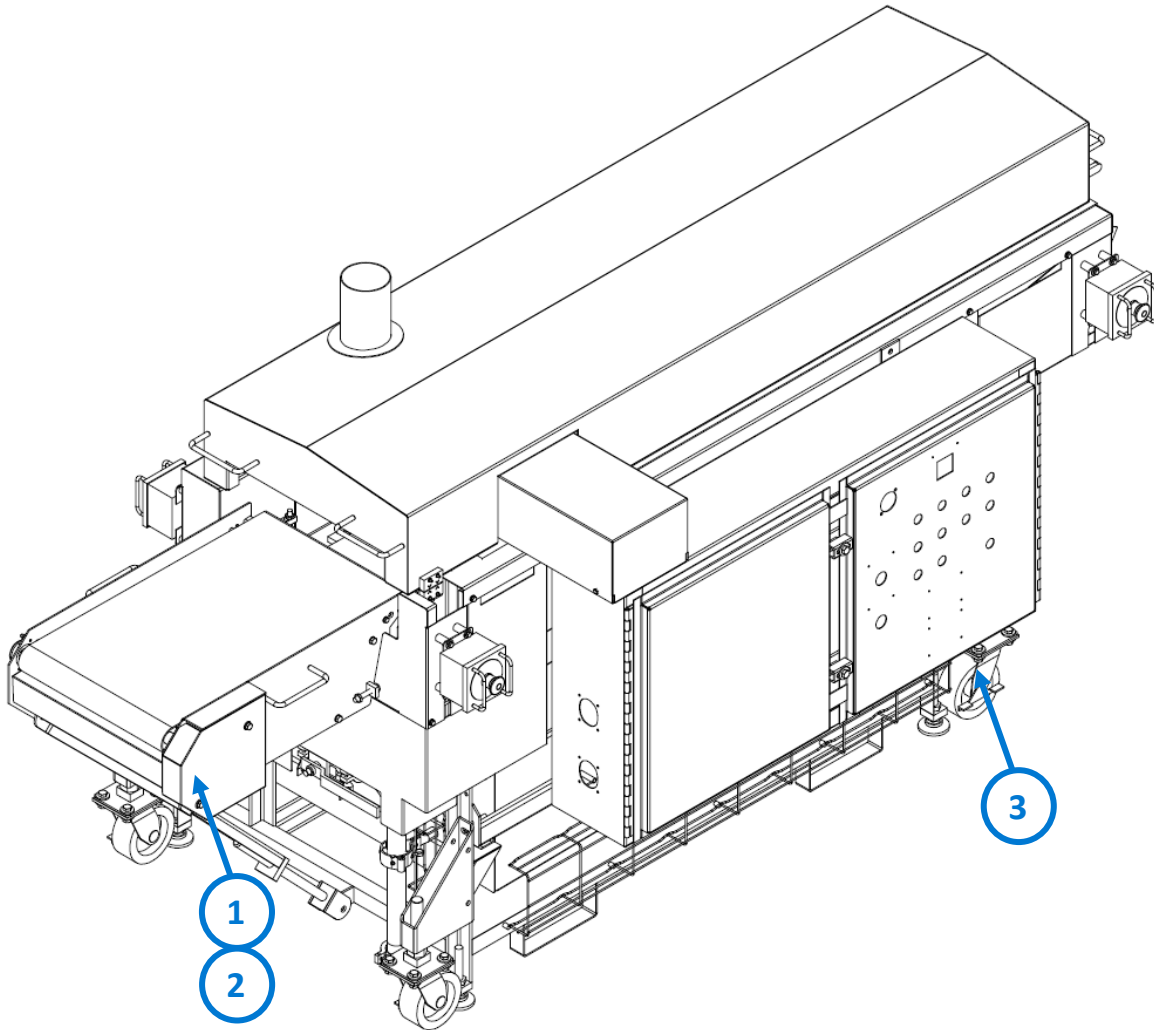
Lubrication Bill of Materials: TDO 1000

| Position | Lubricating Location | Lubricant | | Remarks | Monthly | Yearly |
|----------|--|--------------|--------------------|-------------|---------|--------|
| | | Type* | Qty. | | | |
| A | Hood Lift System | Grease L-116 | | Lubricate | X | |
| B | Lower Drum Bearings | | | | | |
| | Drum bearing | Grease L-125 | 100 ml/ bearing | Lubricate | X | |
| C | Fan Bearings | | | | | |
| | Bearing | Grease L-116 | | Lubricate | X | |
| D | Infeed Drive Motor | | | | | |
| | Gear box | Oil L-110 | | Check level | X | |
| | Gear box | Oil L-110 | 1.0 | Change oil | | X |
| E | Drum Gears | | | | | |
| | Gear box | Oil L-123 | | Check level | X | |
| | Gear box | Oil L-123 | 1.0 | Change oil | | X |
| F | Continuous Belt Wash Motor (optional equipment) | | | | | |
| | Gear box | Oil L-110 | | Check level | X | |
| | Gear box | Oil L-110 | 1.0 | Change oil | | X |

Note: Electric motors should be re-greased when overhauled. Normally electric motors are delivered without grease nipples. Overhaul and re-grease motors during bearing change or when a motor is dismantled for other reasons.

Fryers

Machine Shown: FA-5



| Pos. # | Location | Qty | Description | Frequency | | | |
|--------|---------------------|-----|-------------|-----------|-----------|--------------|--------------|
| | | | | Daily | Weekly | Monthly | Yearly |
| 1 | Conveyor Gearmotors | 2 | Formula 577 | | | Inspect/Fill | Drain/Refill |
| 2 | Bearings* | 8 | Formula 377 | Lubricate | Lubricate | | |
| 3 | Casters | 4 | Formula 312 | | | Lubricate | |

*Fill submerged bearings with grease weekly

*Fill non-submerged bearings with grease daily (includes vent fan bearings)

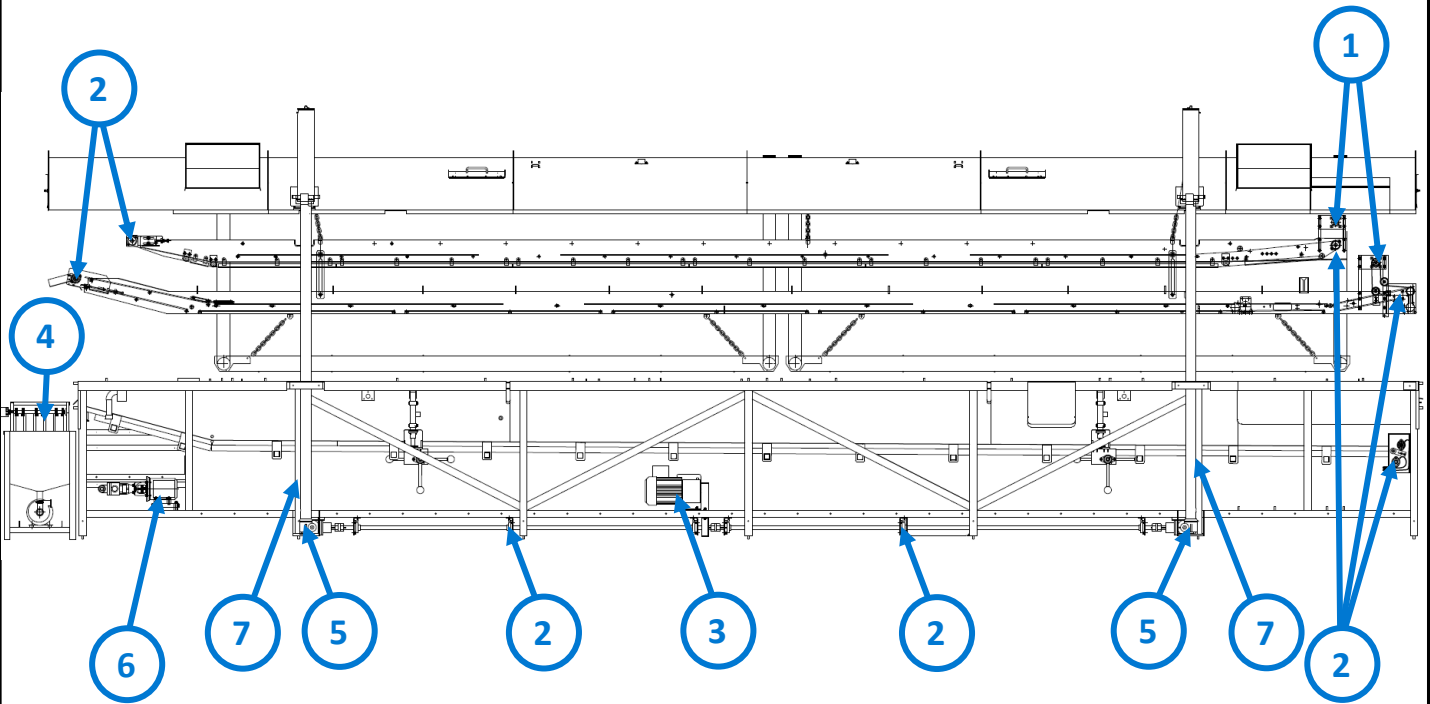
Quantities may vary per machine or configuration

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Fryers

Machine Shown: TFF IV



| Pos. # | Location | Qty | Description | Frequency | | | |
|--------|--------------------------------|-----|------------------|-----------|--------|---------|--------|
| | | | | Daily | Weekly | Monthly | Yearly |
| 1 | Conveyor Gearboxes | 2 | Formula 577 | | | | X |
| 2 | Bearings | 10 | Formula 377 | | X | | |
| 3 | Lift System Gearbox | 1 | Formula 5460 FG | | | X | |
| 4 | Sediment Removal Conveyor Belt | 1 | Formula 2350 H1 | | X | | |
| 5 | Jack Screw/Gearbox | 4 | Formula 312 | | | X | |
| 6 | PD Pump | 1 | Formula 57PAG FG | | | X | |
| 7 | Lift Post | 4 | Formula 388 | | X | | |

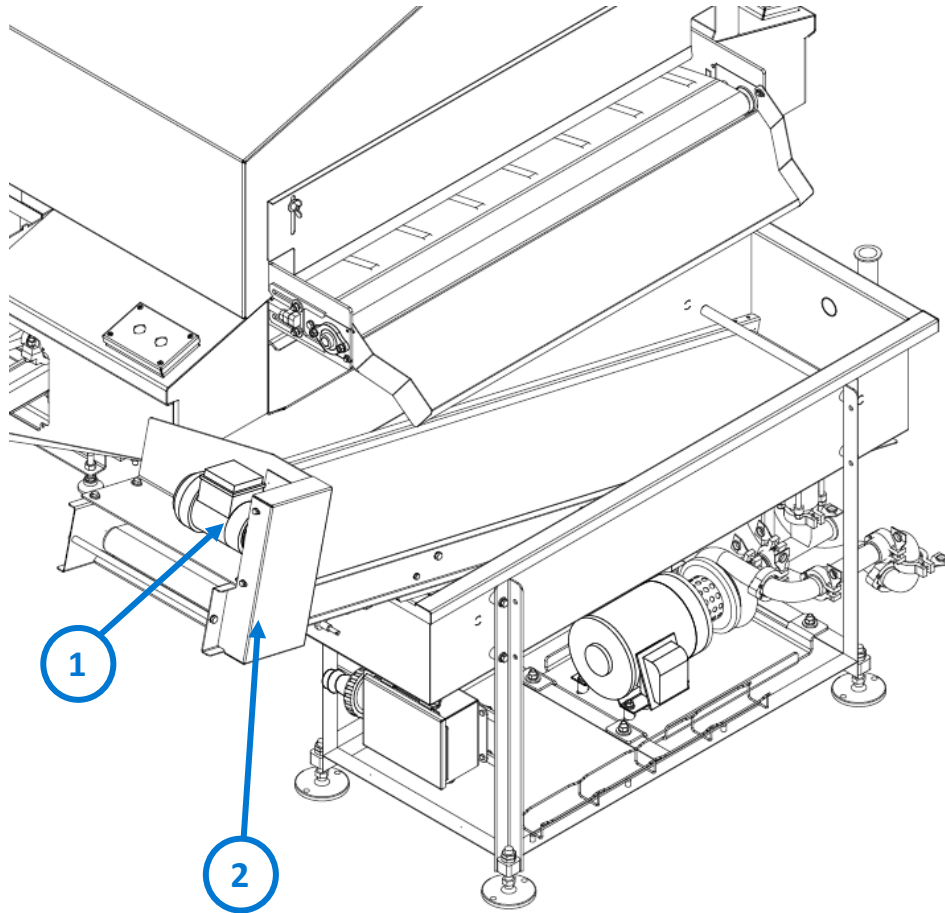
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Fryers

Machine Shown: FSR



| Pos. # | Location | Qty | Description | Frequency | | | |
|--------|-----------|-----|------------------|-----------|--------|--------------|--------------|
| | | | | Daily | Weekly | Monthly | Yearly |
| 1 | Gearmotor | 1 | Formula 57PAG FG | | | Inspect/Fill | Drain/Refill |
| 2 | Bearings | 4 | Formula 377 | Lubricate | | | |

No lubrication required for centrifugal pumps

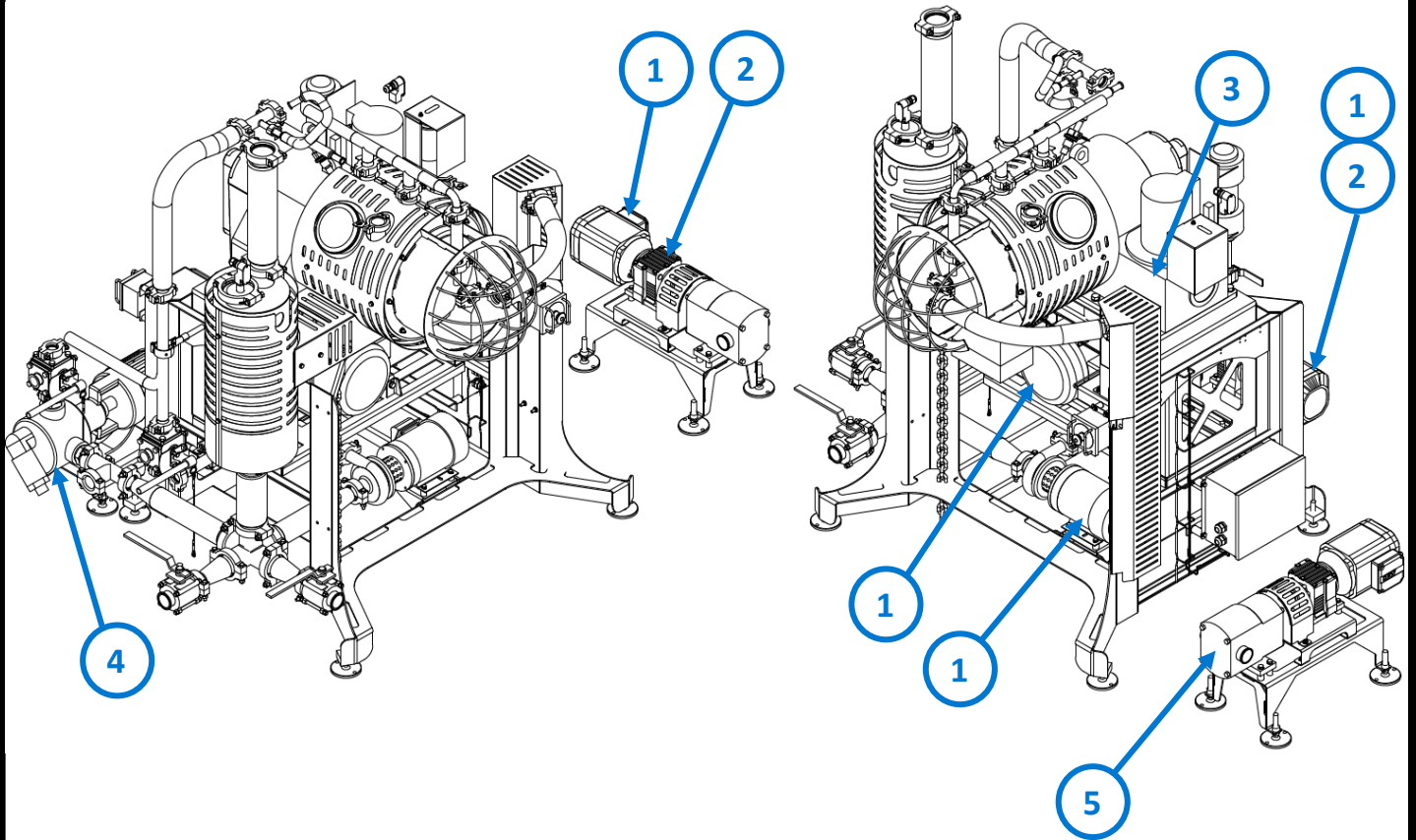
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Filters

Machine Shown: MX-II



| Pos. # | Location | Qty | Description | Frequency | | | |
|--------|-------------------|-----|------------------|-----------|--------|---------|--------|
| | | | | Daily | Weekly | Monthly | Yearly |
| 1 | Electric Motors | 4 | Formula 360 | | | | X |
| 2 | Gearboxes | 2 | Formula 5460 FG | | | X | |
| 3 | Cyclo Gear Oil | 1 | Formula 777 | | | X | |
| 4 | Discharge PD Pump | 1 | Formula 57PAG FG | | | X | |
| 5 | Infeed PD Pump | 1 | Nonlabeled 2 | | X | | |

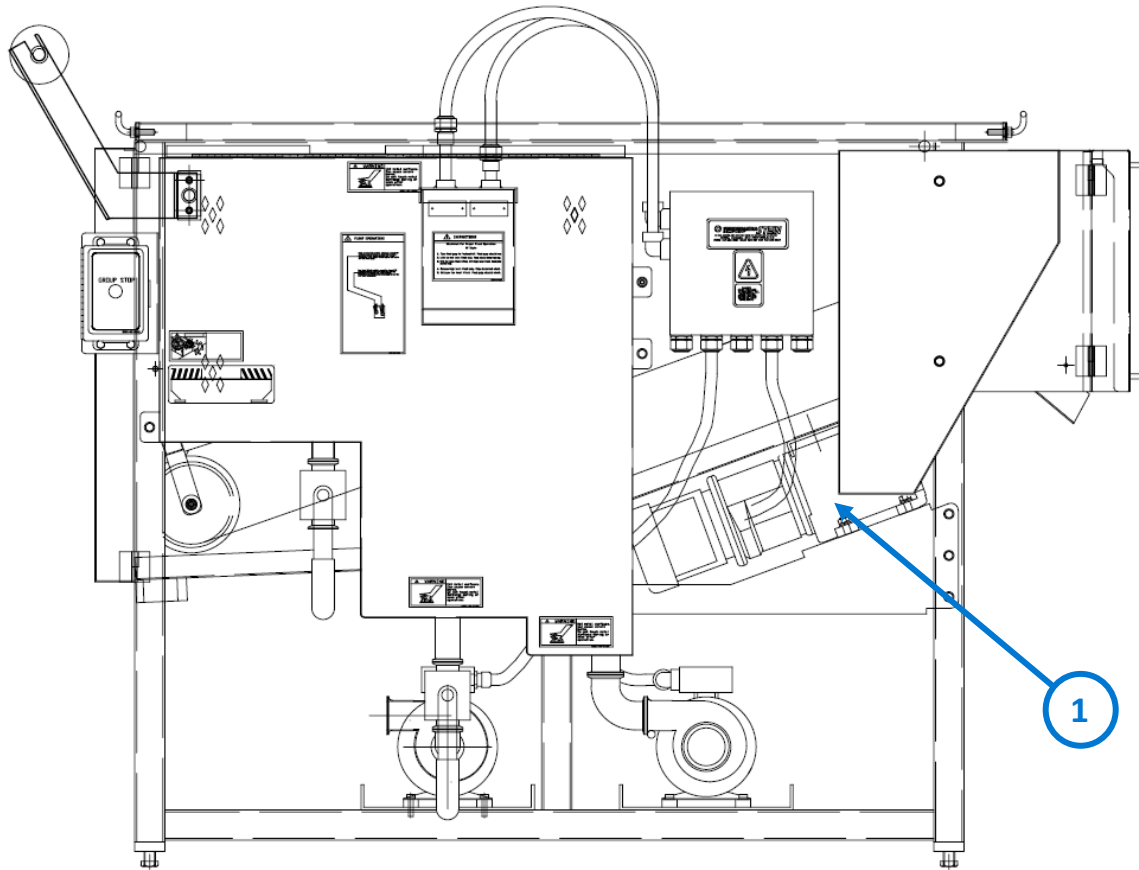
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Filters

Machine Shown: SF-11



| Pos. # | Location | Qty | Description | Frequency | | | |
|--------|-----------|-----|-----------------|-----------|--------|--------------|--------------|
| | | | | Daily | Weekly | Monthly | Yearly |
| 1 | Gearmotor | 1 | Formula 5460 FG | | | Inspect/Fill | Drain/Refill |
| 2 | PD Pump* | 1 | Formula 312 | | | Lubricate | |

*Not shown (PD pumps uncommon for SF filters)

No lubrication required for centrifugal pumps

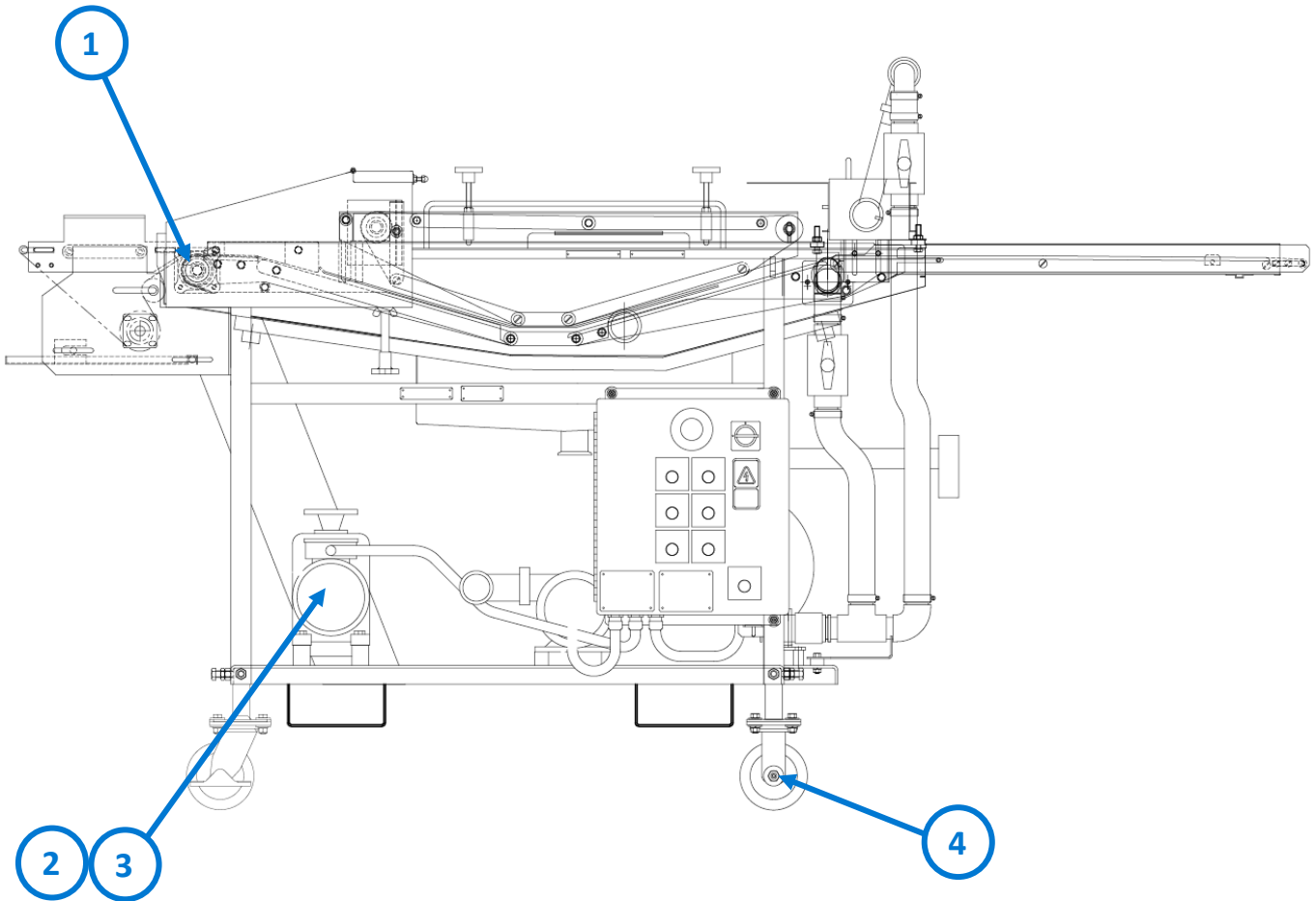
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Batter Applicators

Machine Shown: APB



| Pos. # | Location | Qty | Description | Frequency | | | |
|--------|-----------------|-----|------------------|-----------|--------|--------------|--------------|
| | | | | Daily | Weekly | Monthly | Yearly |
| 1 | Bearings | 4 | Formula 312 | Lubricate | | | |
| 2 | Electric Motors | 1 | Formula 360 | | | | Inspect/Fill |
| 3 | Gearboxes | 1 | Formula 57PAG FG | | | Inspect/Fill | Drain/Refill |
| 4 | Casters | 4 | Formula 312 | | | Lubricate | |

No lubrication required for centrifugal pumps

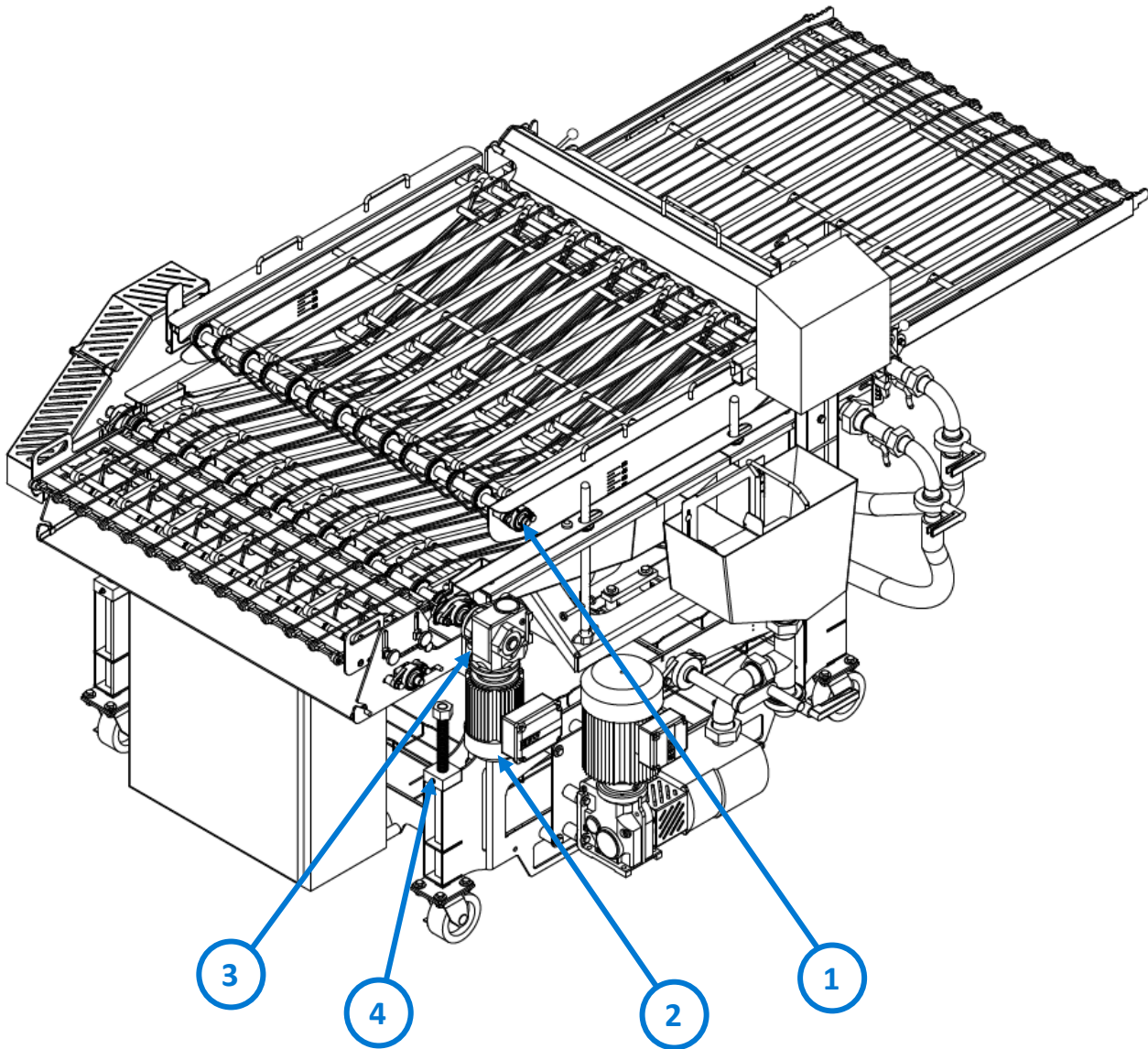
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Batter Applicators

Machine Shown: SUV-BA



| Pos. # | Location | Qty | Description | Frequency | | | |
|--------|-----------------|-----|------------------|-----------|--------|--------------|--------------|
| | | | | Daily | Weekly | Monthly | Yearly |
| 1 | Bearings | 7 | Formula 312 | Lubricate | | | |
| 2 | Electric Motors | 2 | Fomula 360 | | | | Inspect/Fill |
| 3 | Gearboxes | 2 | Formula 57PAG FG | | | Inspect/Fill | Drain/Refill |
| 4 | Casters | 4 | Fomula 312 | | | Lubricate | |

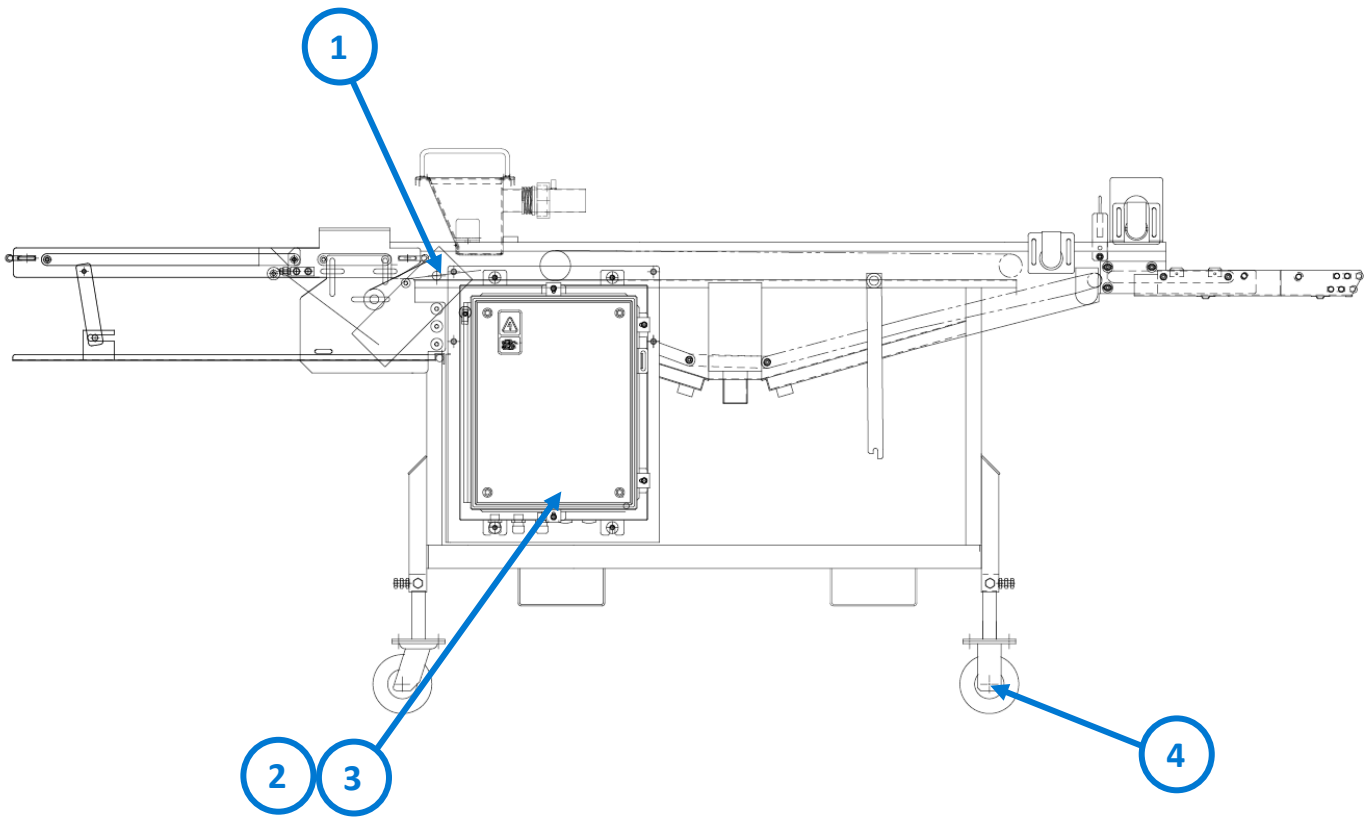
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Batter Applicators

Machine Shown: T-1



| Pos. # | Location | Qty | Description | Frequency | | | |
|--------|----------------|-----|------------------|-----------|--------|--------------|--------------|
| | | | | Daily | Weekly | Monthly | Yearly |
| 1 | Bearings | 2 | Formula 312 | Lubricate | | | |
| 2 | Electric Motor | 1 | Formula 360 | | | | Inspect/Fill |
| 3 | Gearbox | 1 | Formula 57PAG FG | | | Inspect/Fill | Drain/Refill |
| 4 | Casters | 4 | Formula 312 | | | Lubricate | |

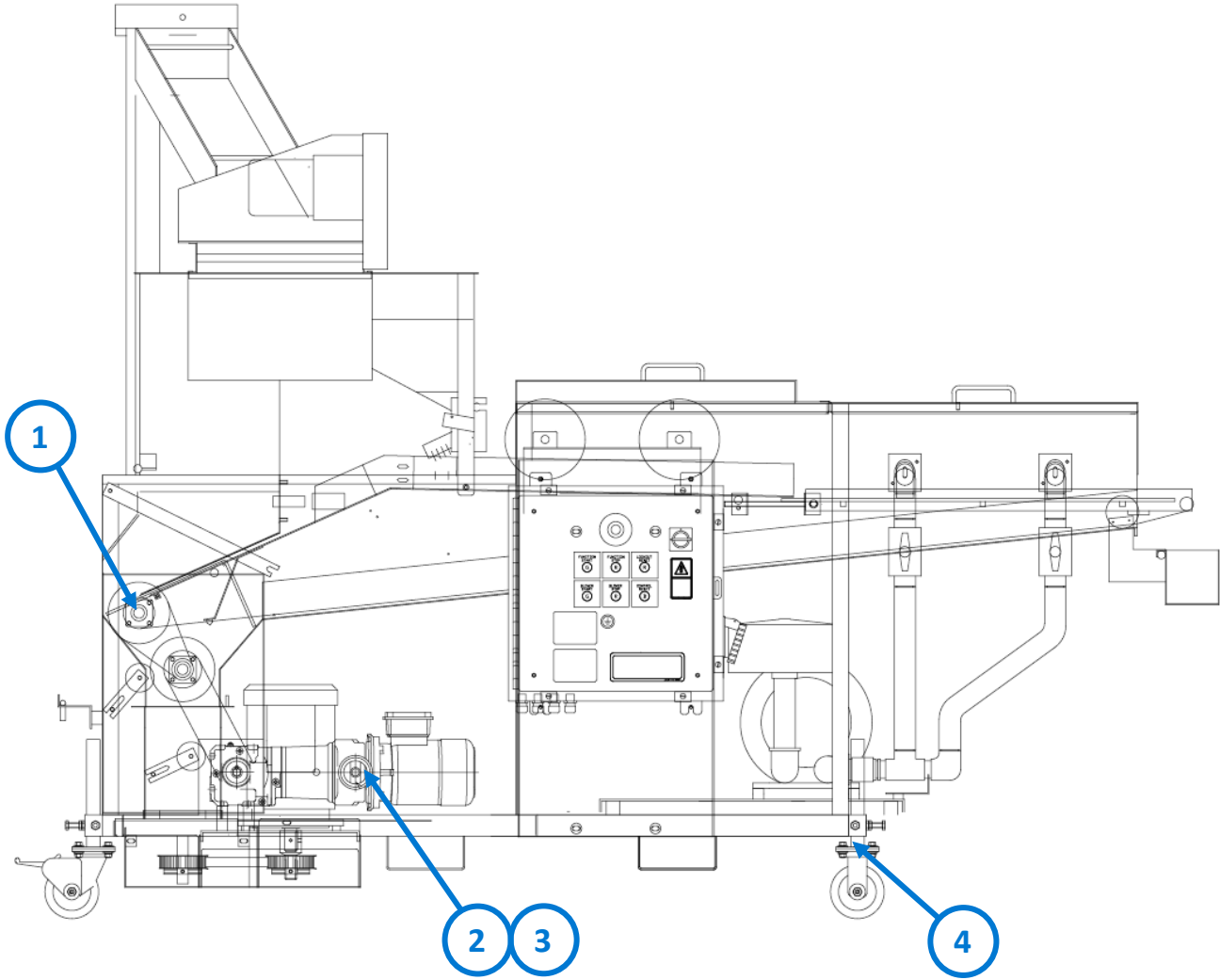
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Breeding Machines

Machine Shown: E-Breader



| Pos. # | Location | Qty | Description | Frequency | | | |
|--------|-----------------|-----|------------------|-----------|--------|--------------|--------------|
| | | | | Daily | Weekly | Monthly | Yearly |
| 1 | Bearings | 6 | Formula 312 | Lubricate | | | |
| 2 | Electric Motors | 2 | Formula 360 | | | | Inspect/Fill |
| 3 | Gearboxes | 2 | Formula 57PAG FG | | | Inspect/Fill | Drain/Refill |
| 4 | Casters | 4 | Formula 312 | | | Lubricate | |

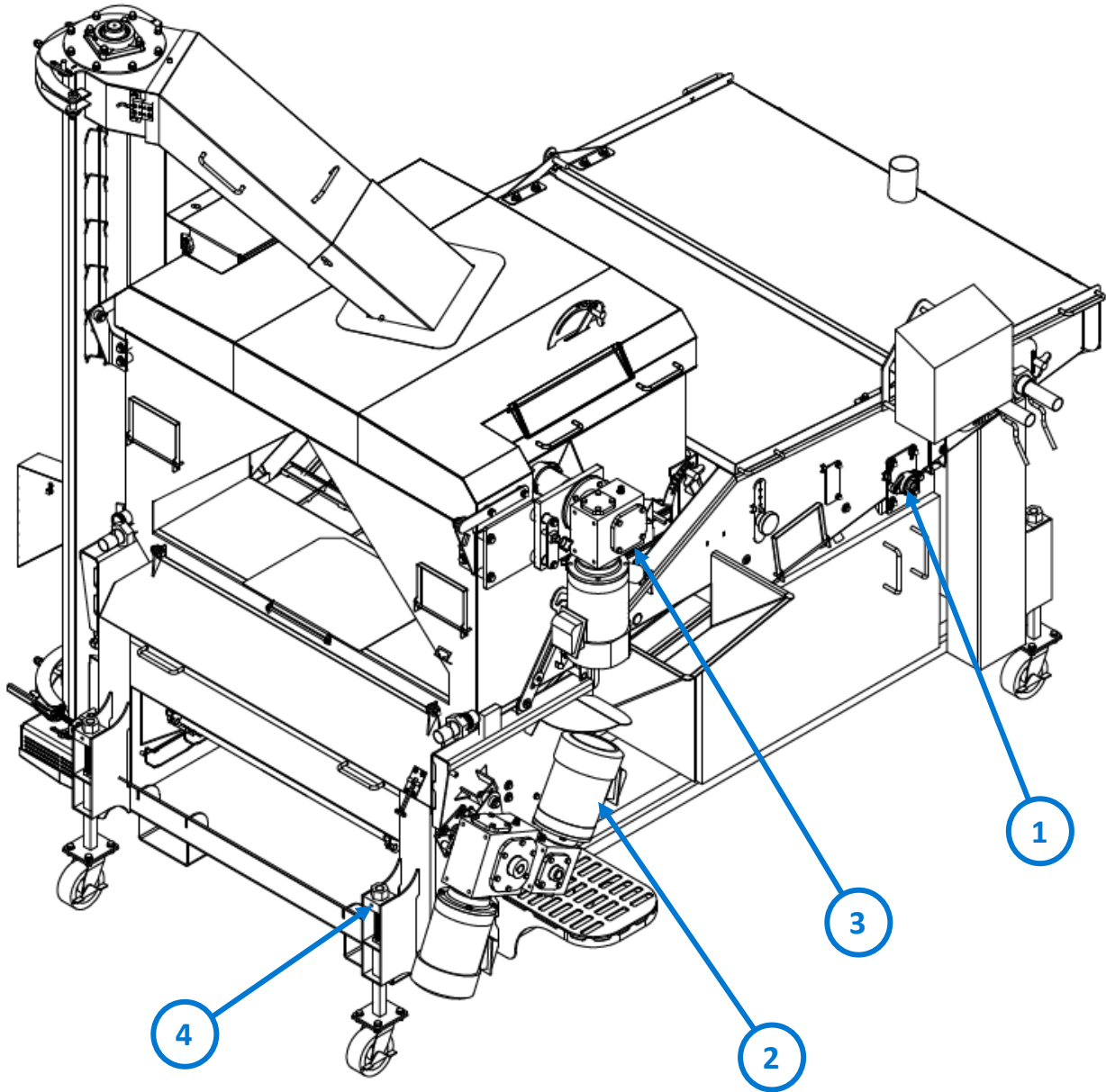
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Breeding Machines

Machine Shown: SUV-BR



| Pos. # | Location | Qty | Description | Frequency | | | |
|--------|-----------------|-----|------------------|-----------|--------|---------|--------|
| | | | | Daily | Weekly | Monthly | Yearly |
| 1 | Bearings | 10 | Formula 312 | | X | | |
| 2 | Electric Motors | 4 | Formula 360 | | | | X |
| 3 | Gearboxes | 4 | Formula 57PAG FG | | | X | |
| 4 | Casters | 4 | Formula 312 | | | X | |

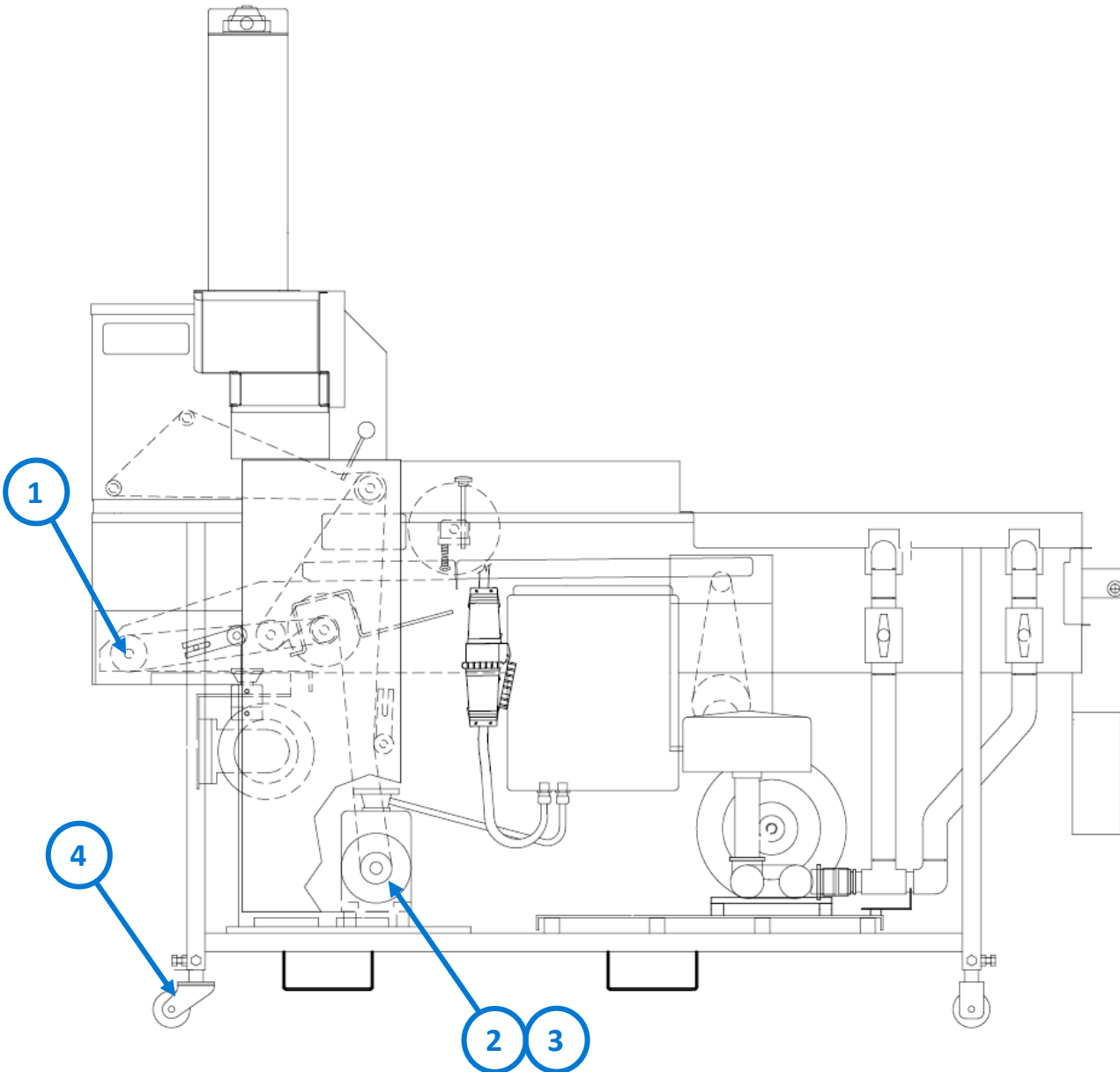
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Breeding Machines

Machine Shown: 100-Breader



| Pos. # | Location | Qty | Description | Frequency | | | |
|--------|-----------------|-----|-------------------|-----------|--------|--------------|--------------|
| | | | | Daily | Weekly | Monthly | Yearly |
| 1 | Bearings | 8 | Form ula 312 | Lubricate | | | |
| 2 | Electric Motors | 5 | Form ula 360 | | | | Inspect/Fill |
| 3 | Gearboxes | 5 | Form ula 57PAG FG | | | Inspect/Fill | Drain/Refill |
| 4 | Casters | 4 | Form ula 312 | | | Lubricate | |

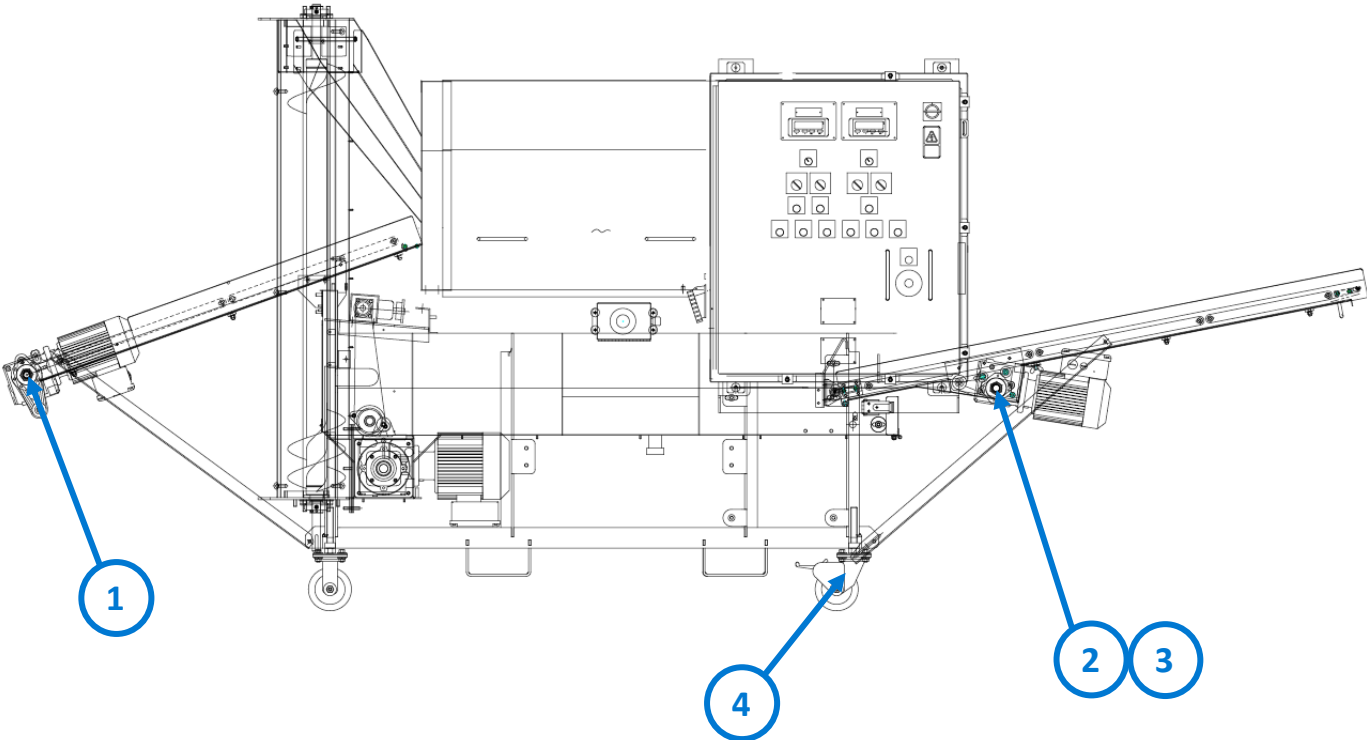
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Breeding Machines

Machine Shown: DB-4



| Pos. # | Location | Qty | Description | Frequency | | | |
|--------|-----------------|-----|------------------|-----------|--------|--------------|--------------|
| | | | | Daily | Weekly | Monthly | Yearly |
| 1 | Bearings | 14 | Formula 312 | Lubricate | | | |
| 2 | Electric Motors | 6 | Formula 360 | | | | Inspect/Fill |
| 3 | Gearboxes | 6 | Formula 57PAG FG | | | Inspect/Fill | Drain/Refill |
| 4 | Casters | 4 | Formula 312 | | | Lubricate | |

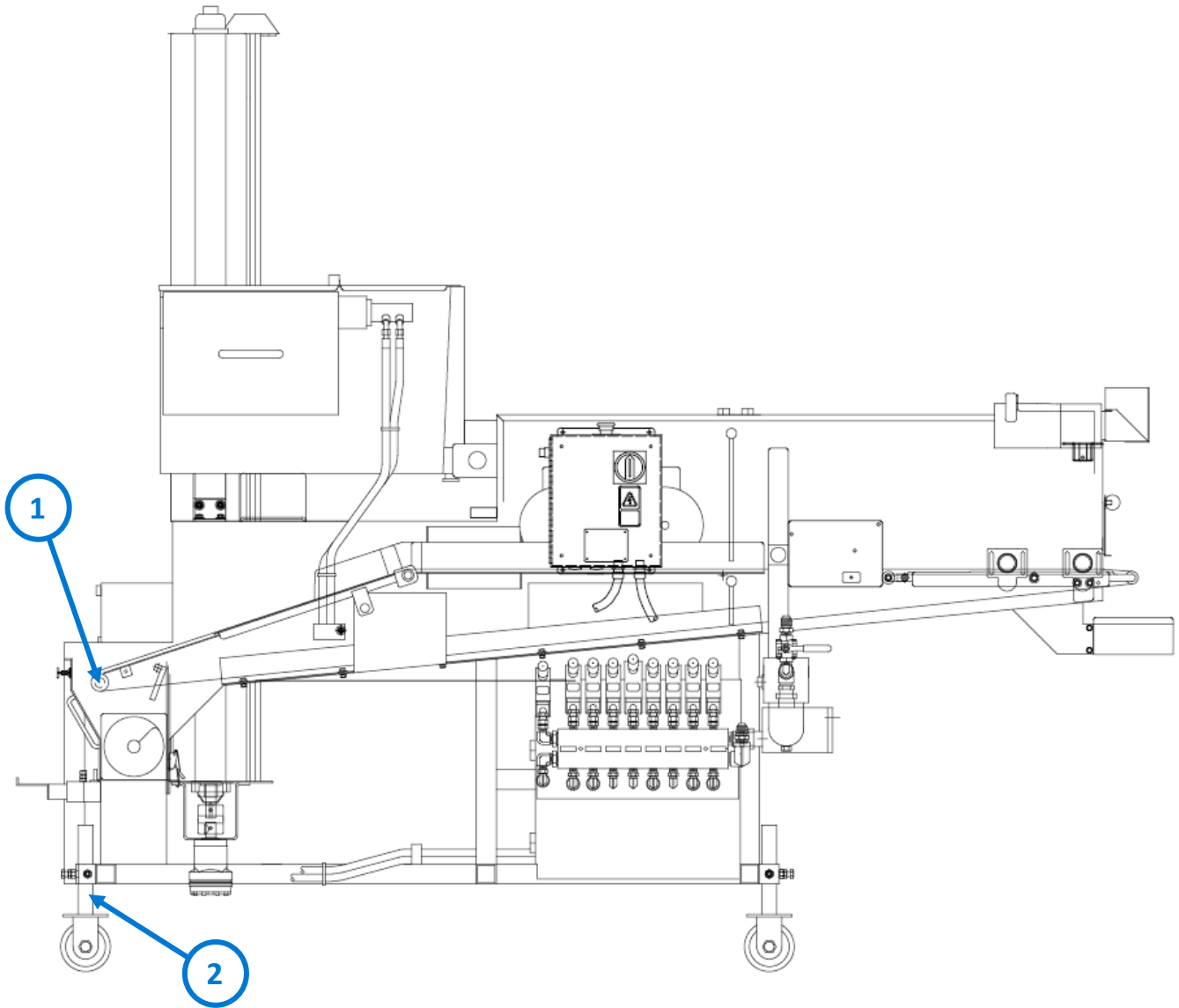
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Breeding Machines

Machine Shown: XL



| Pos. # | Location | Qty | Description | Frequency | | | |
|--------|----------|-----|-------------|-----------|--------|-----------|--------|
| | | | | Daily | Weekly | Monthly | Yearly |
| 1 | Bearings | 12 | Formula 312 | Lubricate | | | |
| 2 | Casters | 4 | Formula 312 | | | Lubricate | |

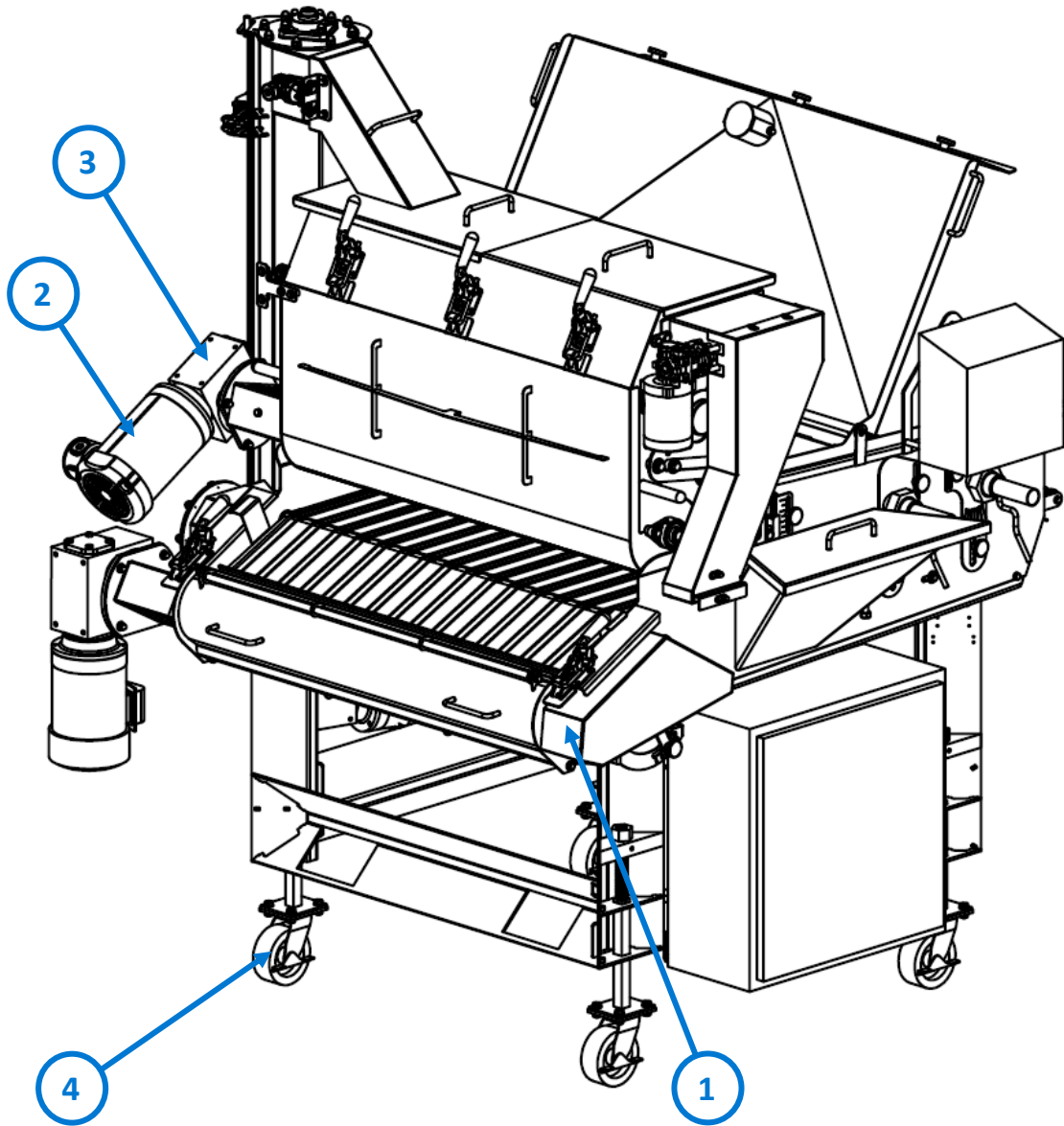
Quantities may vary per machine or configuration

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Breeding Machines

Machine Shown: SHB



| Pos. # | Location | Qty | Description | Frequency | | | |
|--------|-----------------|-----|------------------|-----------|--------|--------------|--------------|
| | | | | Daily | Weekly | Monthly | Yearly |
| 1 | Bearings | 10 | Formula 312 | Lubricate | | | |
| 2 | Electric Motors | 4 | Formula 360 | | | | Inspect/Fill |
| 3 | Gearboxes | 4 | Formula 57PAG FG | | | Inspect/Fill | Drain/Refill |
| 4 | Casters | 4 | Formula 312 | | | Lubricate | |

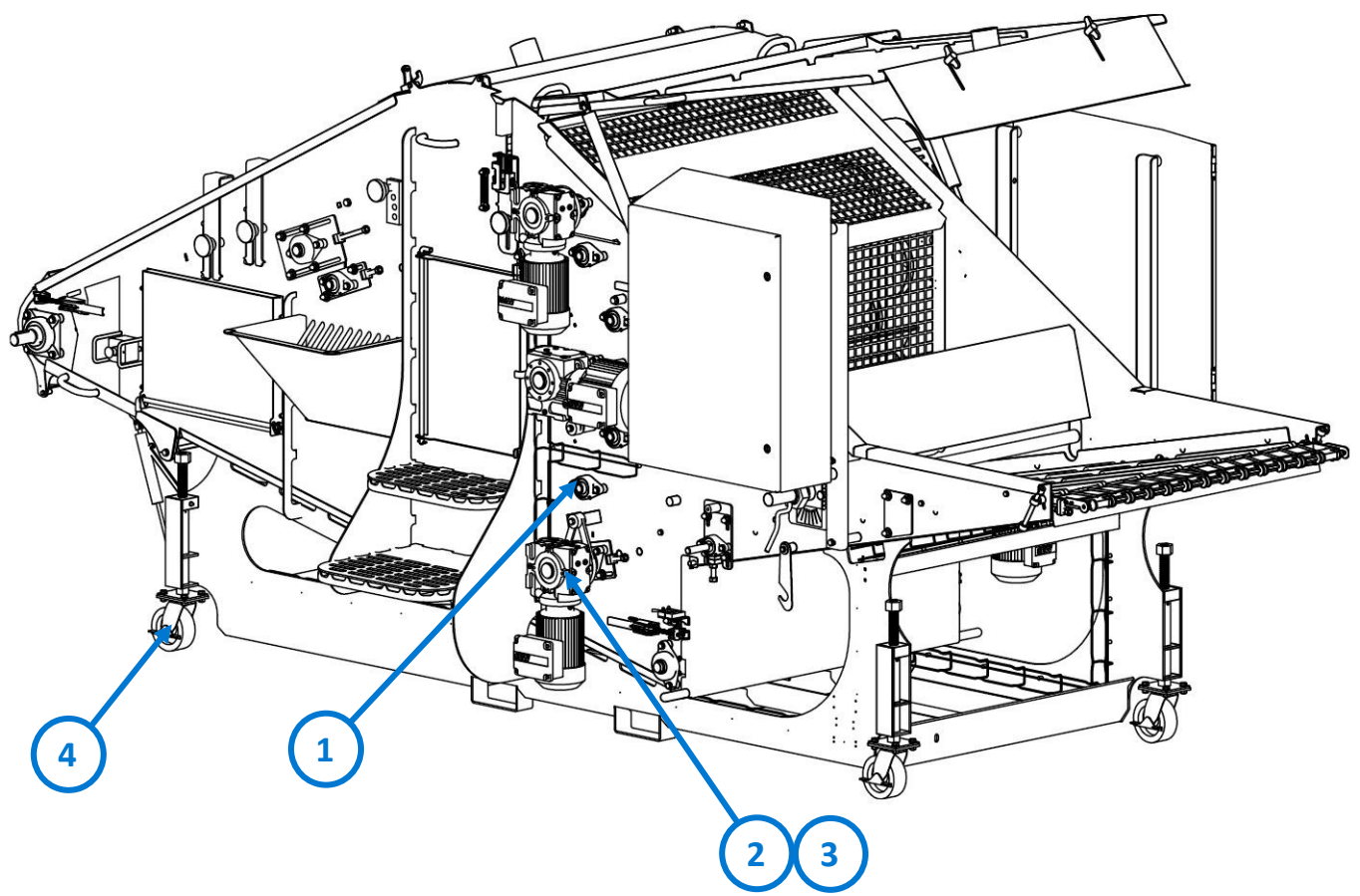
Quantities may vary per machine or configuration

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Breeding Machines

Machine Shown: HSB



| Pos. # | Location | Qty | Description | Frequency | | | |
|--------|-----------------|-----|------------------|-----------|--------|--------------|--------------|
| | | | | Daily | Weekly | Monthly | Yearly |
| 1 | Bearings | 19 | Formula 312 | Lubricate | | | |
| 2 | Electric Motors | 6 | Formula 360 | | | | Inspect/Fill |
| 3 | Gearboxes | 6 | Formula 57PAG FG | | | Inspect/Fill | Drain/Refill |
| 4 | Casters | 4 | Formula 312 | | | Lubricate | |

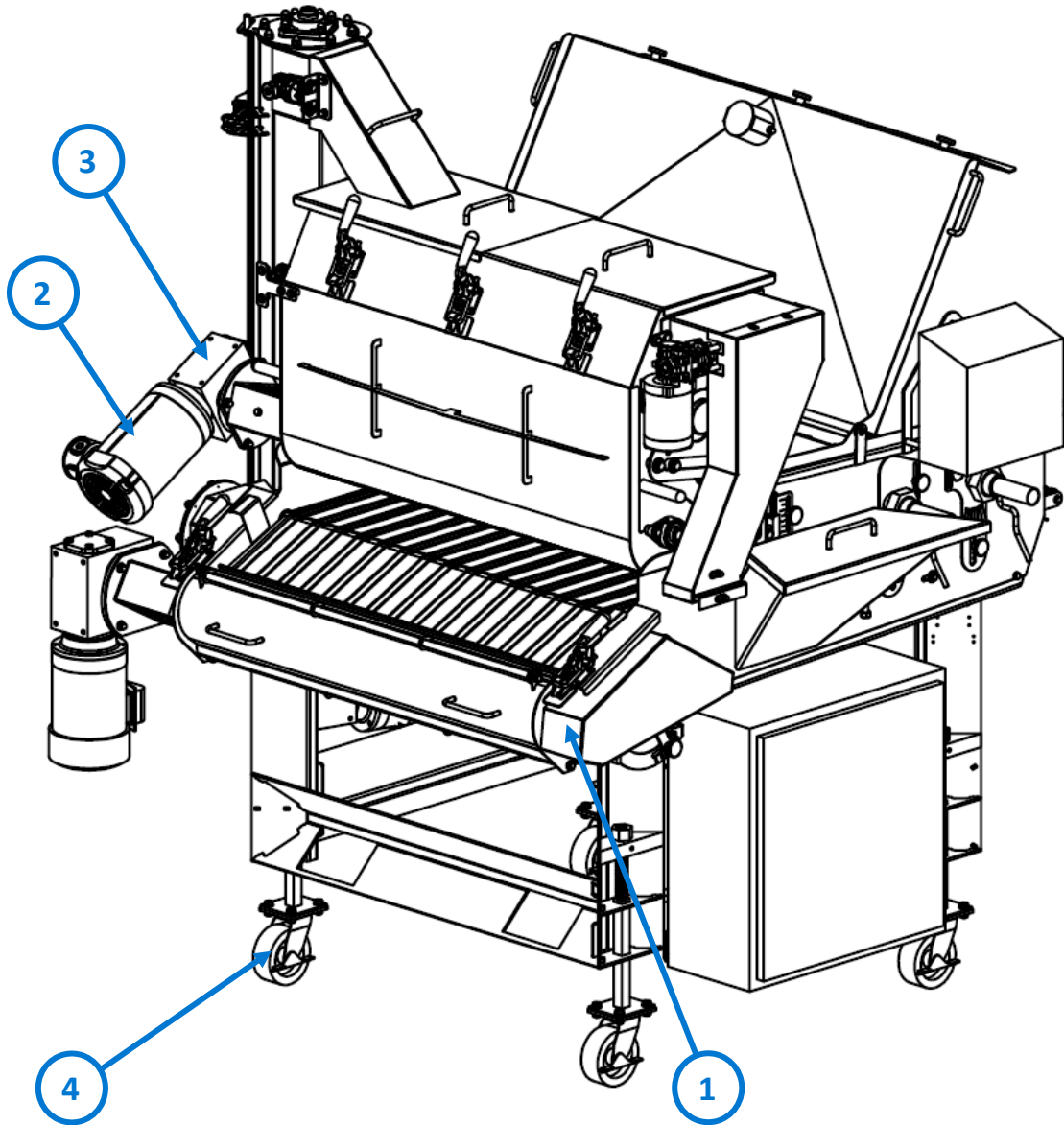
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Breeding Machines

Machine Shown: SHB



| Pos. # | Location | Qty | Description | Frequency | | | |
|--------|-----------------|-----|------------------|-----------|--------|--------------|--------------|
| | | | | Daily | Weekly | Monthly | Yearly |
| 1 | Bearings | 10 | Formula 312 | Lubricate | | | |
| 2 | Electric Motors | 4 | Formula 360 | | | | Inspect/Fill |
| 3 | Gearboxes | 4 | Formula 57PAG FG | | | Inspect/Fill | Drain/Refill |
| 4 | Casters | 4 | Formula 312 | | | Lubricate | |

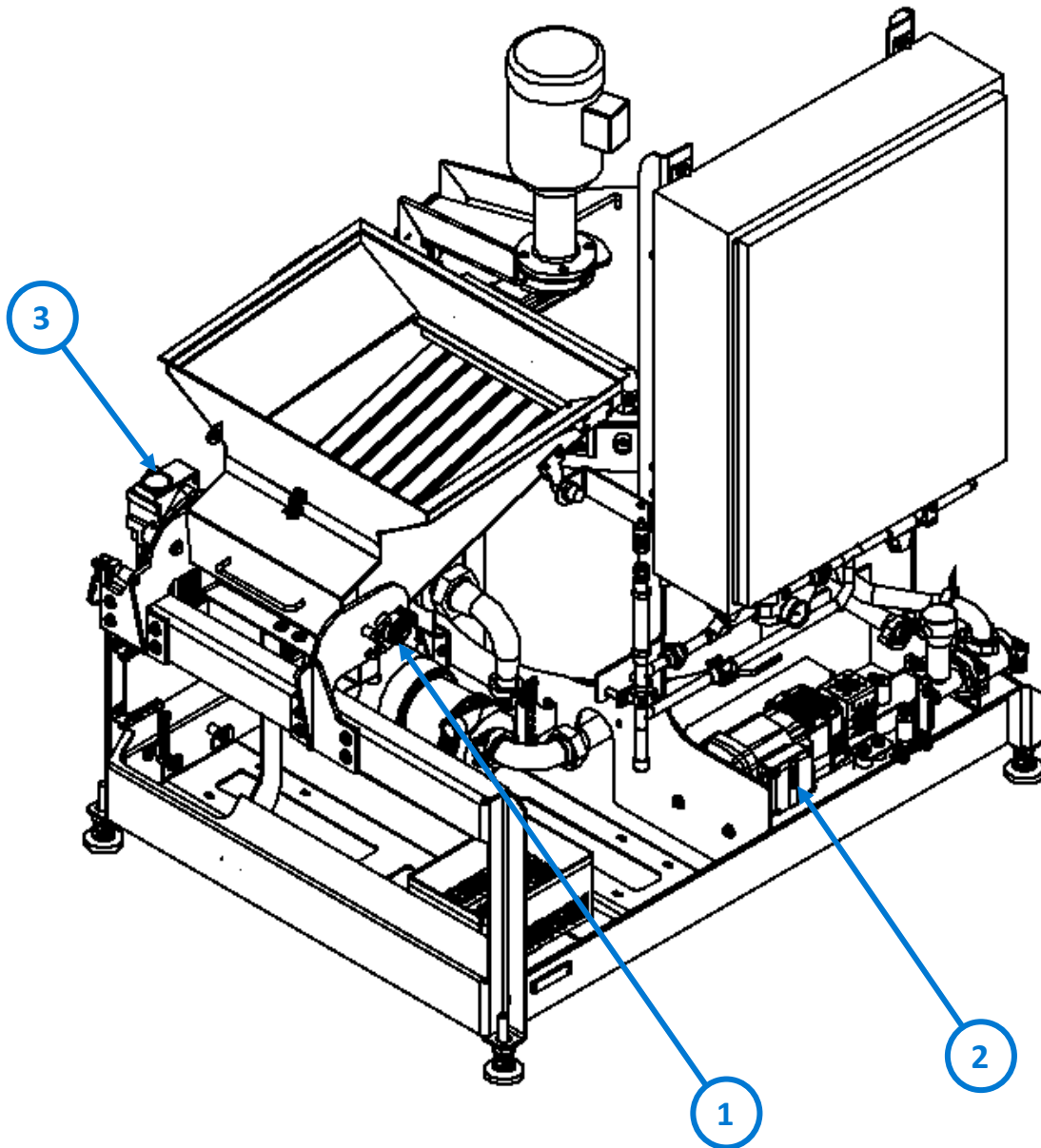
Quantities may vary per machine or configuration

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Mixing Machines

Machine Shown: Promix



| Pos. # | Location | Qty | Description | Frequency | | | |
|--------|-----------------|-----|------------------|-----------|--------|---------|--------|
| | | | | Daily | Weekly | Monthly | Yearly |
| 1 | Bearings | 2 | Formula 312 | | X | | |
| 2 | Electric Motors | 2 | Formula 360 | | | | X |
| 3 | Gearboxes | 2 | Formula 57PAG FG | | | X | |

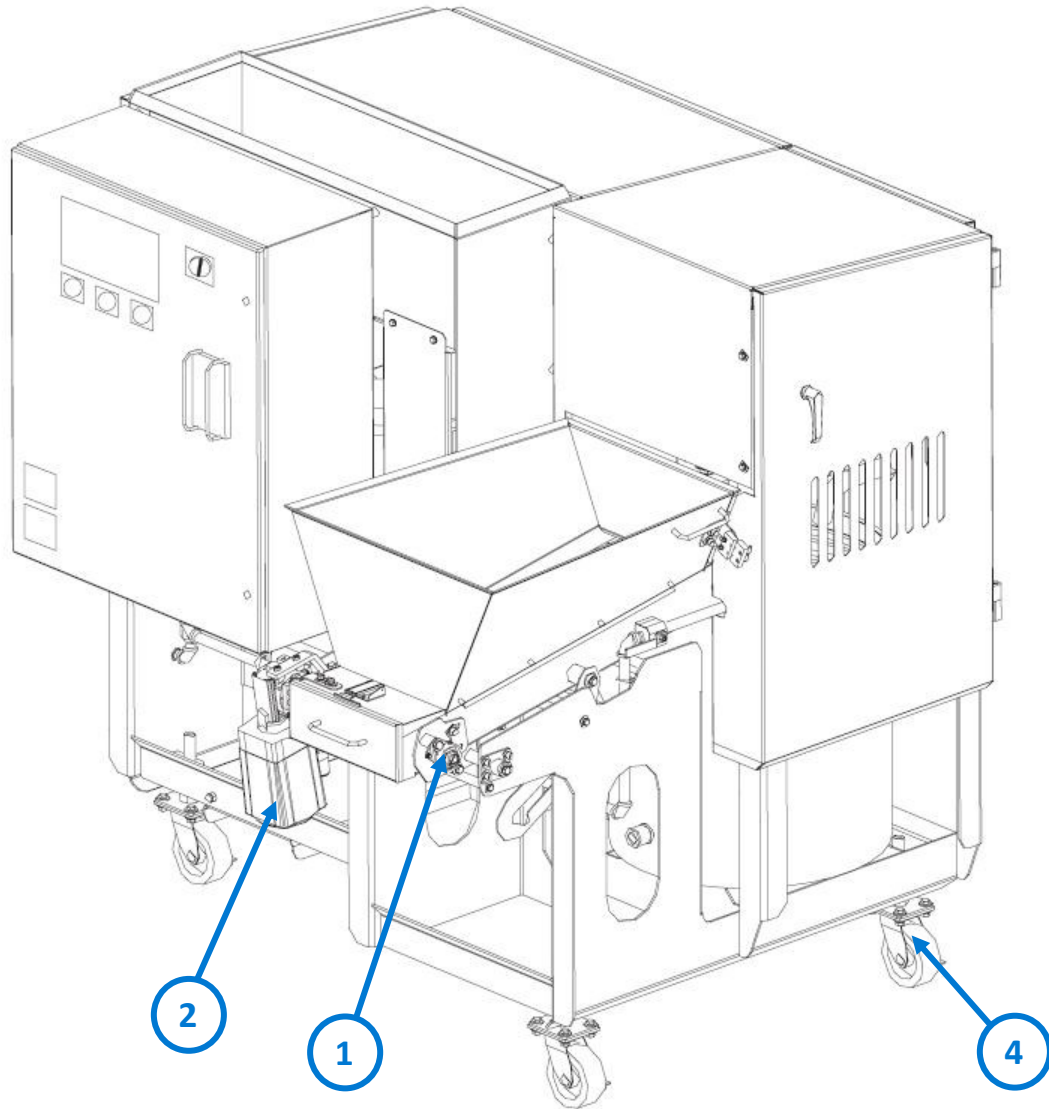
Quantities may vary per machine or configuration

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Mixing Machines

Machine Shown: TM-4



| Pos. # | Location | Qty | Description | Frequency | | | |
|--------|---------------------|-----|------------------|-----------|--------------|-------------------------------|--------------|
| | | | | Daily | Weekly | Monthly | Yearly |
| 1 | Bearings | 12 | Formula 312 | | Lubricate | | |
| 2 | Gearmotors | 4 | Formula 57PAG FG | | | Inspect/Fill | Drain/Refill |
| 3 | PD Pump (not shown) | 1 | Nonlabeled 2 | | Inspect/Fill | Drain/Refill (every 3 months) | |
| 4 | Casters | 4 | Formula 312 | | | Lubricate | |

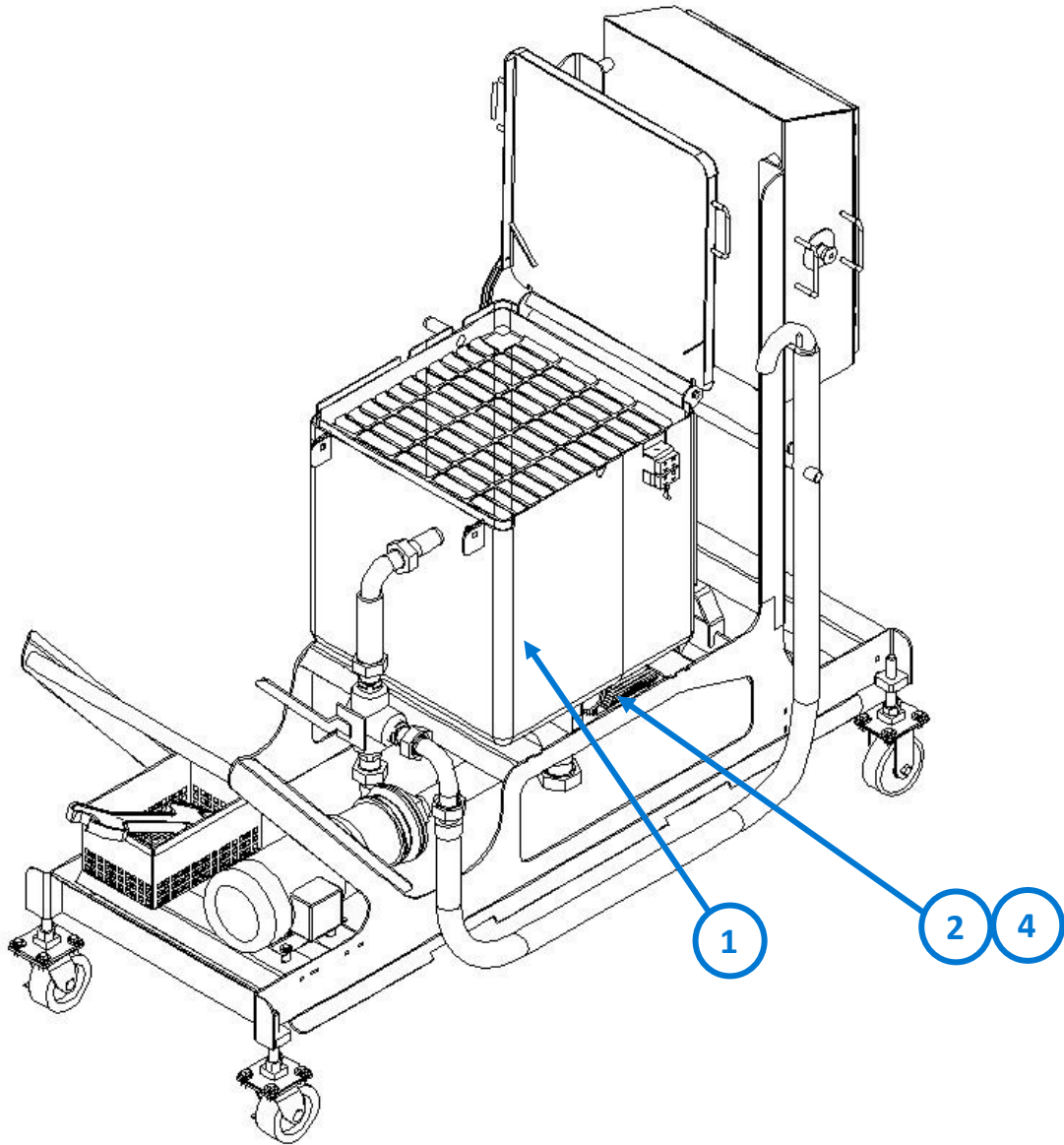
Quantities may vary per machine or configuration

www.myjbtfoodtech.com



Mixing Machines

Machine Shown: SUV-BM



| Pos. # | Location | Qty | Description | Frequency | | | |
|--------|----------------------|-----|-----------------|-----------|--------------|-------------------------------|--------------|
| | | | | Daily | Weekly | Monthly | Yearly |
| 1 | Bearing | 1 | Fomula 312 | | Lubricate | | |
| 2 | Electric Motors | 2 | Fomula 360 | | | | Inspect/Fill |
| 3 | PD Pumps (not shown) | 1 | Nonlabeled 2 | | Inspect/Fill | Drain/Refill (every 3 months) | |
| 4 | Gearboxes | 1 | Fomula 57PAG FG | | | Inspect/Fill | Drain/Refill |

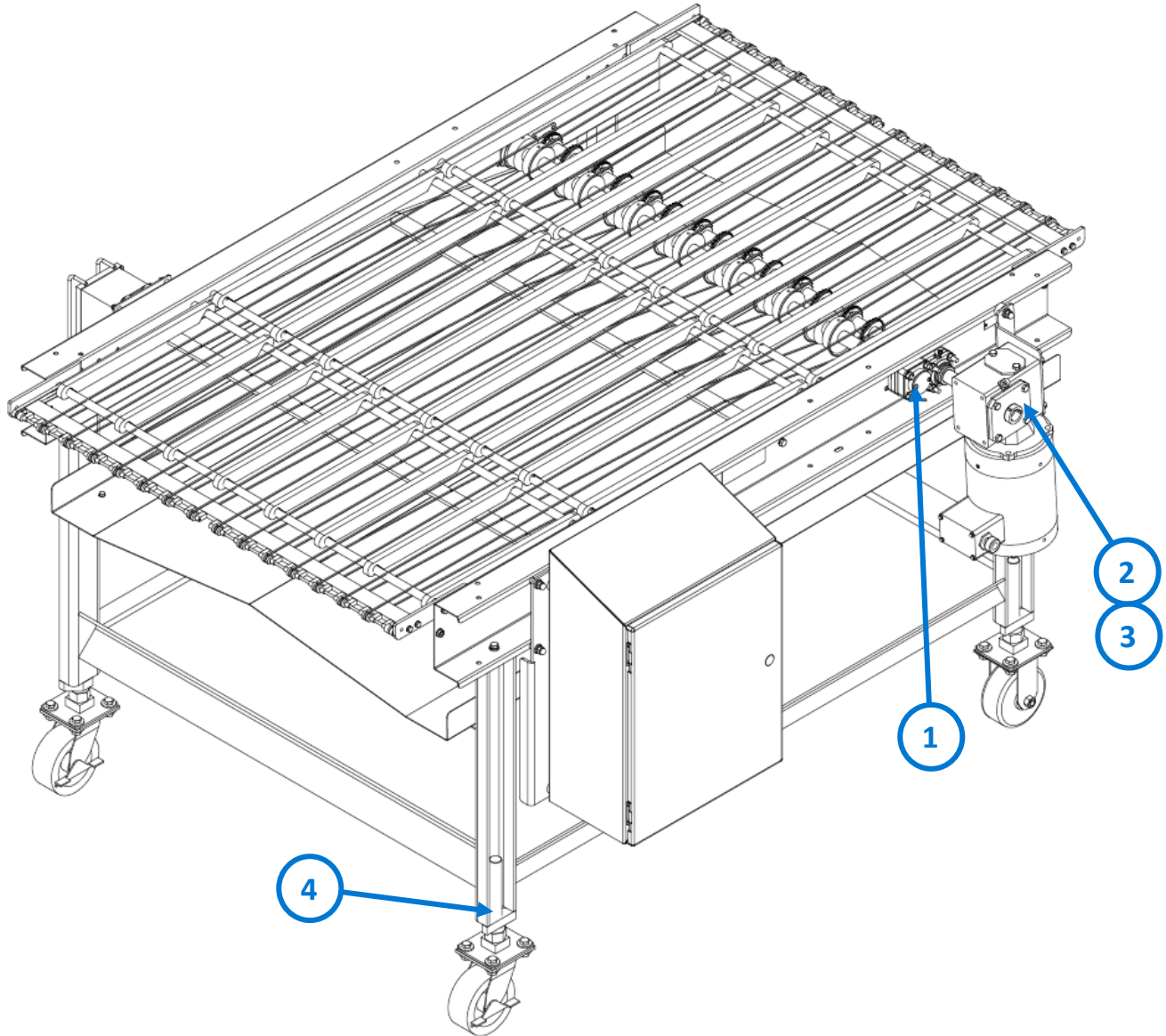
Quantities may vary per machine or configuration

www.myjbtfoodtech.com



Conveyors

Machine Shown: Feed Conveyor



| Pos. # | Location | Qty | Description | Frequency | | | |
|--------|-----------------|-----|------------------|-----------|--------|--------------|--------------|
| | | | | Daily | Weekly | Monthly | Yearly |
| 1 | Bearings | 4 | Formula 312 | Lubricate | | | |
| 2 | Electric Motors | 1 | Formula 360 | | | | Inspect/Fill |
| 3 | Gearboxes | 1 | Formula 57PAG FG | | | Inspect/Fill | Drain/Refill |
| 4 | Casters | 4 | Formula 312 | | | Lubricate | |

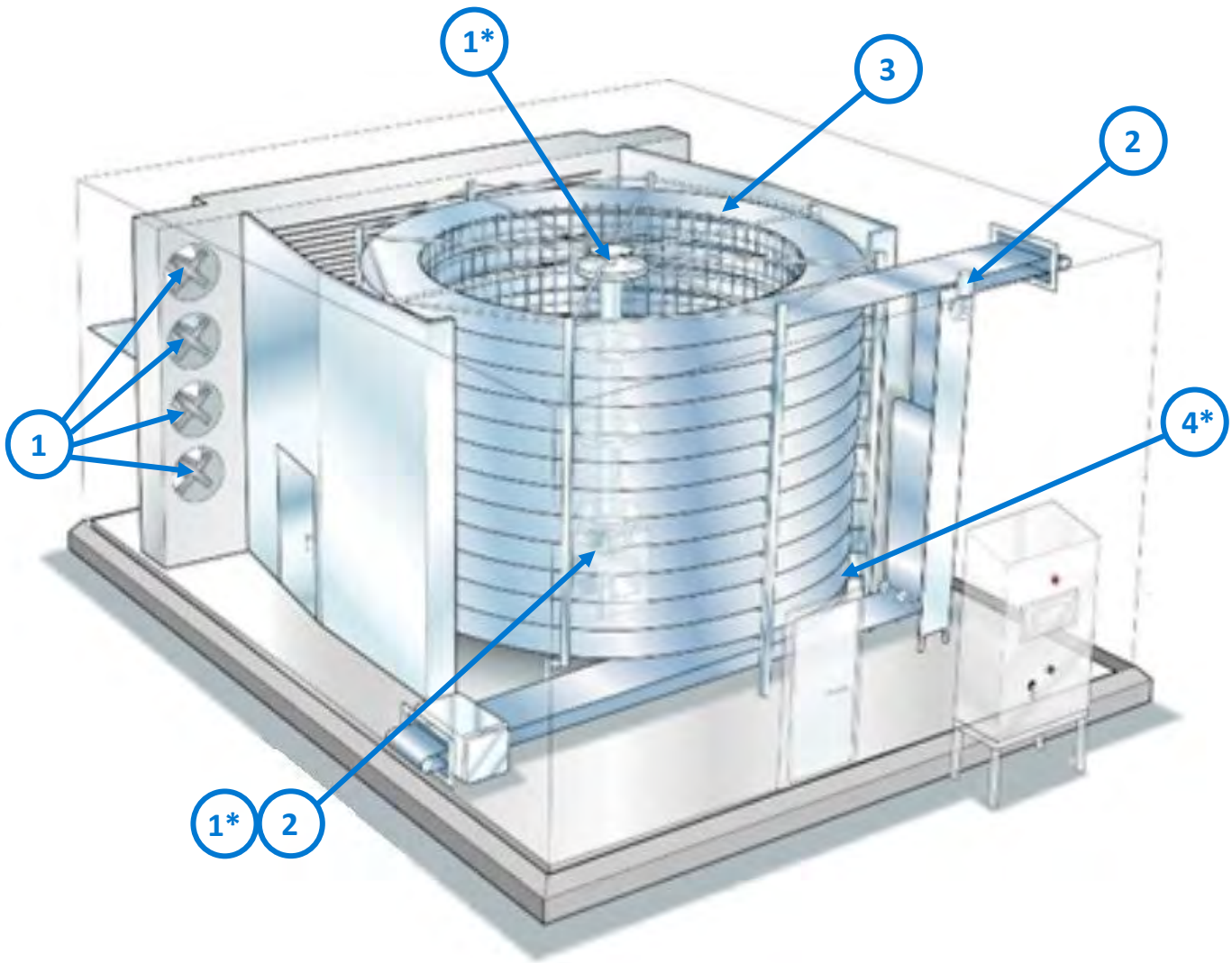
Quantities may vary per machine or configuration

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Northfield Freezers

Machine Shown: SuperTRAK



| Pos. # | Location | Qty | Description | Frequency | | | |
|--------|----------|-----|---------------------|-----------|--------|---------|--------|
| | | | | Daily | Weekly | Monthly | Yearly |
| 1 | Bearings | 10 | Formula 322 | | | X | |
| 2 | Gearbox | 2 | Formula 568 LT | | | X | |
| 3 | Belt | 1 | Formula 2350 | | X | | |
| 4 | Chain | 1 | Formula 410 Aerosol | | | X | |

*LST Only
Quantities may vary per machine or configuration

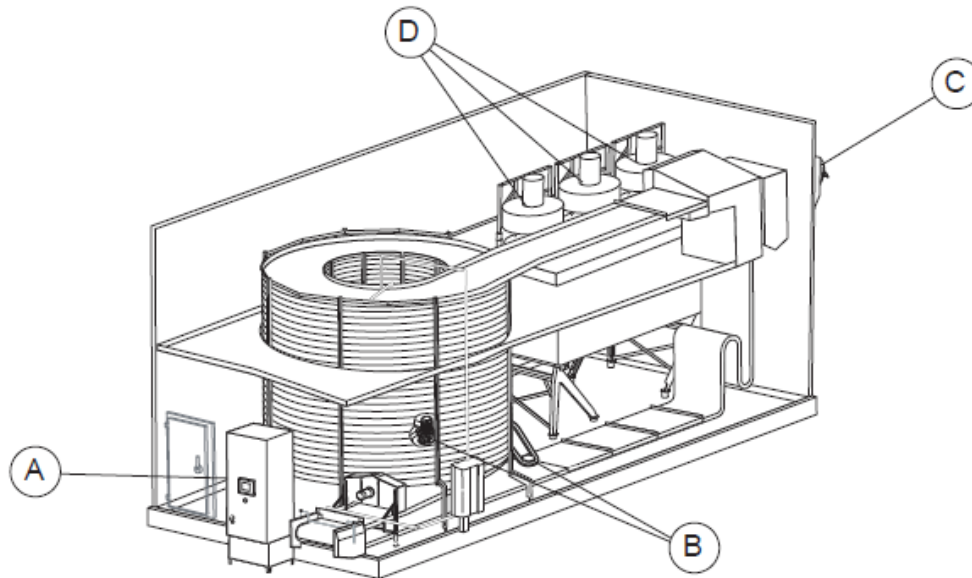
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Frigoscandia Freezers (Spiral)

Machine Shown: GCM10

LUBRICATION



| Position | Lubricating Location | Lubricant | | Remarks | Daily | Weekly | Monthly | Yearly |
|----------|---|-----------|------|----------------------------------|-------|--------|---------|--------|
| | | Type* | Qty. | | | | | |
| A | FRIGoDRIVE® M lubrication system | | | | | | | |
| | Reservoir | Oil Z | | Check level and refill as needed | X | | | |
| B | Main drive | | | | | | | |
| | Gearboxes | Oil F | | Check level | | | X | |
| | Gearboxes | Oil F | *** | Change oil | | | | X |
| | Motor bearings | Grease K | | Lubricate | | | | X** |
| C | Outfeed | | | | | | | |
| | Gearbox | Oil E | | Check level | | | X | |
| | Gearbox | Oil E | 0,3L | Change oil | | | | X |
| | Drive chain | Oil H | | Lubricate | | | X | |
| | Motor bearings | Grease K | | Lubricate | | | | X** |
| D | Fans | | | | | | | |
| | Motor bearings | Grease K | | Lubricate | | | | X** |

Optional equipment: If any optional equipment is installed, lubricate according to separate instructions in this Maintenance chapter.

* According to the Recommended Lubricants section in this Maintenance chapter.

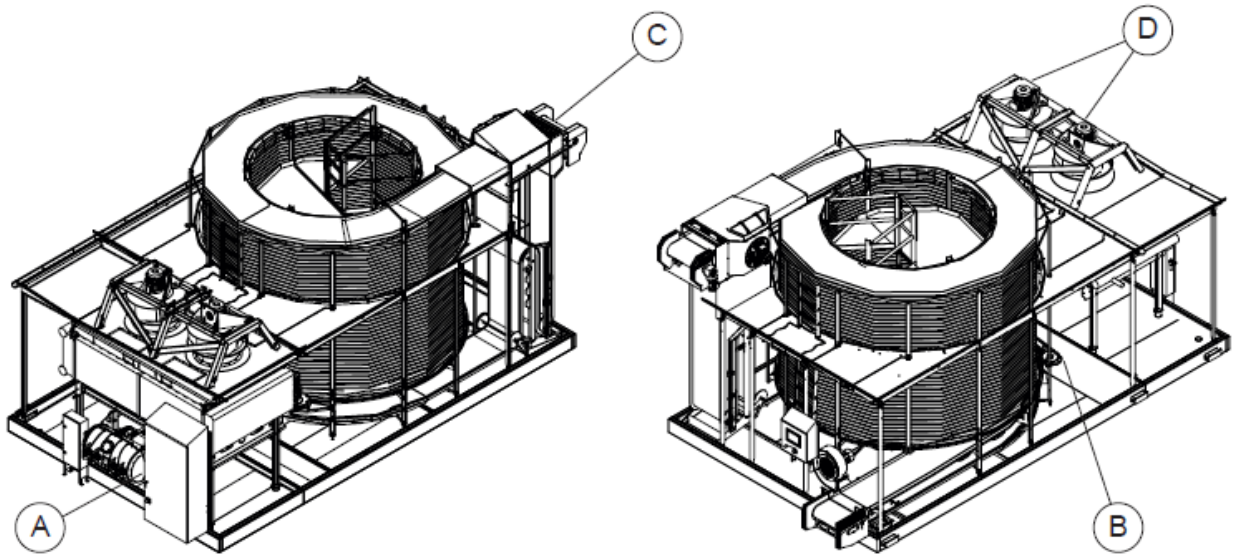
** Only regrease electric motors when overhauled. Normally electric motors are delivered without grease nipples. Overhaul and regrease during bearing change or when a motor is dismantled for other reasons.

*** Quantity of oil varies depending on equipment.

Frigoscandia Freezers (Spiral)

Machine Shown: GC70

LUBRICATION



| Position | Lubrication Location | Lubricant | | | Remarks | Daily | Monthly | Yearly |
|----------|--|--------------|-----------|------|-----------------------------|-------|---------|--------|
| | | Type* | | Qty. | | | | |
| | | Freezer | Chiller | | | | | |
| A | Frigoscandia FRIGoDRIVE® lubrication system | | | | | | | |
| | Reservoir | Oil L-112 | | | Check level and consumption | X | | |
| | Ball rail and glide strips | | | | Check lubrication | X | | |
| B | Main drive | | | | | | | |
| | Gearboxes | Oil L-103 | Oil L-102 | | Check level | | X | |
| | Gearboxes | Oil L-103 | Oil L-102 | *** | Change oil | | | X |
| | Motor bearings | Grease L-113 | | | Lubricate | | | X** |
| C | Outfeed | | | | | | | |
| | Gearbox | Oil L-102 | | | Check level | | X | |
| | Gearbox | Oil L-102 | | 0,3L | Change oil | | | X |
| | Drive chain | Oil L-104 | | | Lubricate | | X | |
| | Motor bearings | Grease L-113 | | | Lubricate | | | X** |
| D | Evaporator and fans | | | | | | | |
| | Motor bearings | Grease L-113 | | | Lubricate | | | X** |

Optional equipment

If any optional equipment is installed, lubrication is to be carried out according to separate instructions. See chapter "Preventive and corrective maintenance".

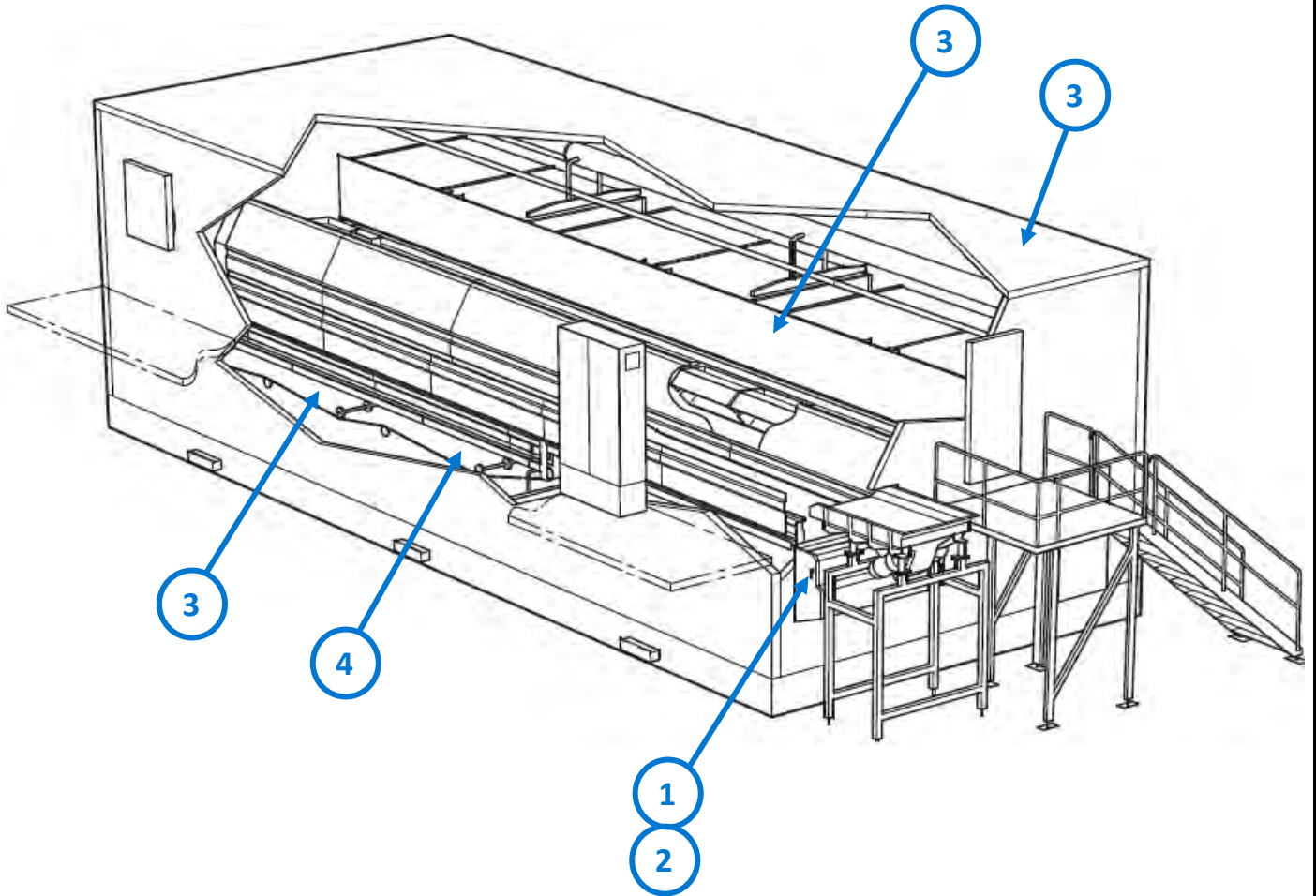
* According to manual sheet "Preventive maintenance, Recommended lubricants".

** Electric motors should be regreased only when overhauled. Normally electric motors are delivered without grease nipples. Overhaul and regrease when bearing change is carried out or when a motor is dismantled for other reasons.

*** Quantity of oil varies depending on equipment.

Frigoscandia Freezers (Linear)

Machine Shown: FloFreeze



| Pos. # | Location | Qty | Description | Frequency | | | |
|--------|--|-----|-------------|-----------|--------|---------|--------|
| | | | | Daily | Weekly | Monthly | Yearly |
| 1 | Infeed Bearings | 1 | Formula 302 | | | X | |
| 2 | Infeed Gearbox | 2 | Formula 546 | | | X* | X |
| 3 | Pulsator/Defroster/Internal Rail Gearbox | 4 | | | | X* | X |
| 4 | Fan Motor Bearings | 4 | Formula 322 | | | X | |

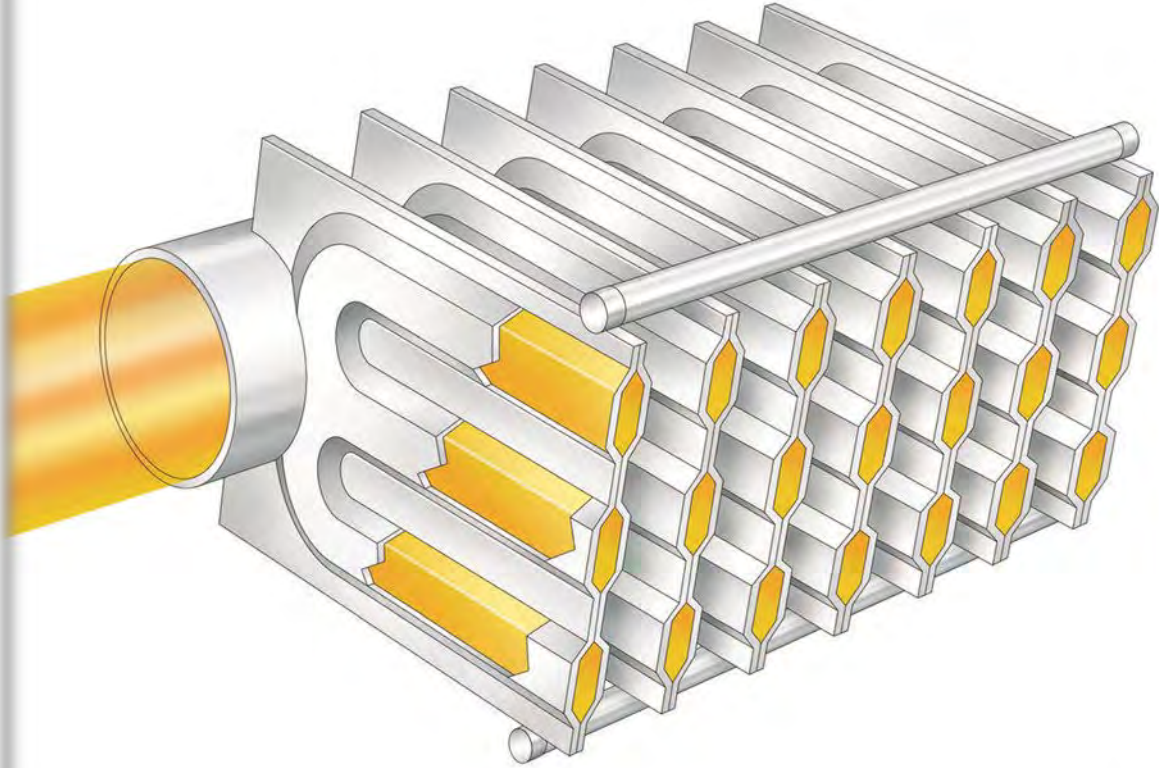
*Check oil level monthly

Quantities may vary per machine or configuration

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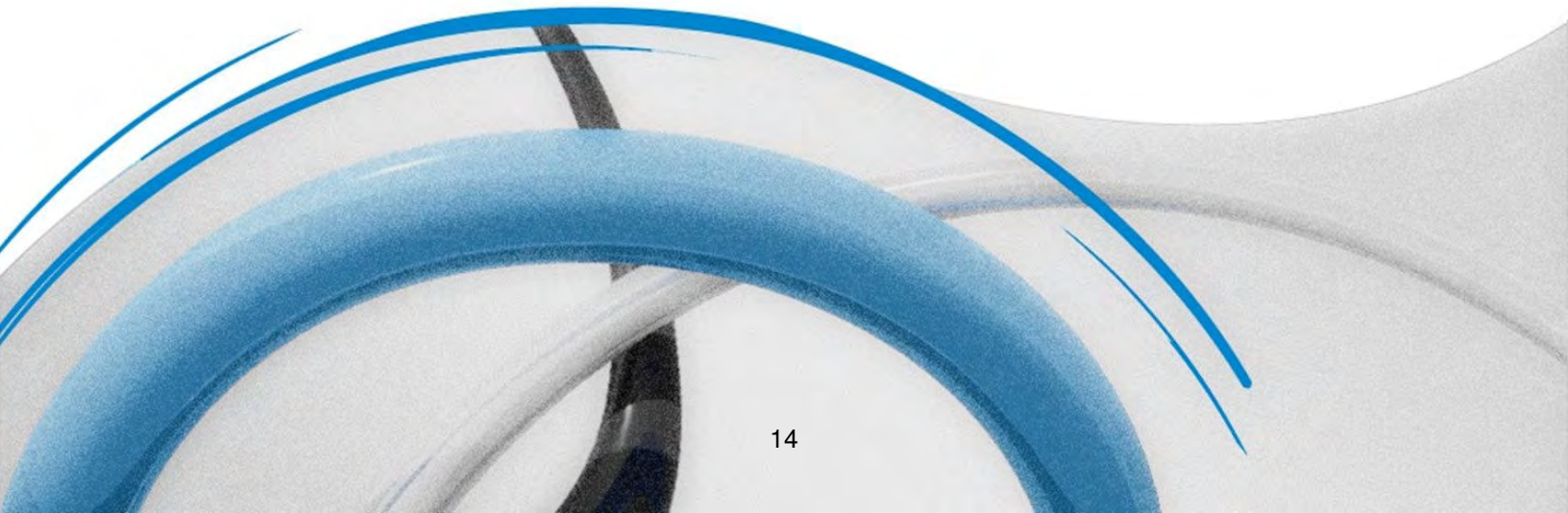


Thermal Fluid Heaters



**For Thermal Fluid, Use
JBT PRoTHERM™ Select**

Lubrication Table



Lubrication Table

| Description | Formula | Size | Part Numbers |
|---|---------------------|------------------------------|-----------------|
| Lecithin Non-Soy Mold Release Powder | Formula 201 | 55# Box | 365715A |
| H1 Food Grade Silicone Fluid | Formula 2350 | 1 Gallon Plastic Bottle | N0120021 |
| | | 5 Gallon Plastic Pail | N0120022 |
| H1 Food Grade Grease #LT (NLGI Grade #0.5-1) | Formula 301 | 10-Pack Grease Tubes | 575063-10 |
| | | 35# Pail | 575064 |
| H1 Food Grade Grease #2 (NLGI Grade #2) | Formula 302 | 10-Pack Grease Tubes | 575066-10 |
| | | 35# Pail | 575067 |
| H1 Food Grade Multipurpose Antiwear Grease | Formula 312 | 10-Pack Grease Tubes | 365716A |
| | | 35# Pail | 365716B |
| H1 Food Grade Cold Environment Antiwear Grease | Formula 322 | 14 oz. Grease Tubes | 356210A |
| H1 Food Grade Motor Grease | Formula 360 | 10-Pack Grease Tubes | 365717A |
| H1 Food Grade High Temperature Bearing Gel | Formula 377 | 14.1 oz. Cartridge | 411-20-0005 |
| H1 Food Grade Aluminum Complex-Thickened Bearing Grease | Formula 388 | 4.125 Gallon Plastic Pail | 411-20-0024-001 |
| | | 13.4 oz. Grease Tube | 411-20-0024-002 |
| H1 Food Grade Very Low Temperature Antiwear Oil | Formula 410 | 1 Gallon Plastic Bottle | 301546C |
| | | 5 Gallon Plastic Pail | 350945C |
| | | 5 Gallon Square Plastic Pail | 350945CS |
| | | 16 Gallon Steel Keg | 301546ZA |
| | | 55 Gallon Steel Drum | 350945B |
| | | 275 Gallon Hard Plastic Tote | 350945T |
| H1 Food Grade Low Viscosity Lubricating Oil | Formula 410 Phylax | 1 Gallon Canister | 305554A |
| | | 5 Gallon Canister | 305554B |
| | | 55 Gallon Canister | 305554C |
| H1 Food Grade Very Low Temperature Antiwear Oil | Formula 410 Aerosol | 11 oz. Net Weight Aerosol | 350945A |
| | | 16 Fluid oz. Trigger Bottle | 301546TR |
| H1 Food Grade Extreme Low Temperature Antiwear Oil | Formula 410 XLT | 1 Gallon Plastic Bottle | 356176A |
| | | 16 Gallon Steel Keg | 356176B |
| | | 55 Gallon Steel Drum | 356176C |
| | | 275 Gallon Hard Plastic Tote | 356176T |
| H1 Food Grade Proofer and Steamer Oil | Formula 440 | 1 Gallon Plastic Bottle | 365436A |
| | | 5 Gallon Plastic Pail | 365436B |
| | | 55 Gallon Steel Drum | 365436D |
| | | 275 Gallon Hard Plastic Tote | 365636E |
| H1 Food Grade Oven Oil | Formula 499 | 5 Gallon Plastic Pail | 411-20-0099-005 |
| | | 55 Gallon Steel Drum | 411-20-0099-055 |
| | | 320 Gallon Hard Plastic Tote | 411-20-0099-320 |
| H2 Low Temperature Antiwear Gear Oils | Formula 532 | 5 Gallon Plastic Pail | 356319A |
| | | 55 Gallon Steel Drum | 356319B |
| | Formula 546 | 5 Gallon Plastic Pail | 356026A |
| | | 16 Gallon Steel Keg | 356026B |
| | | 55 Gallon Steel Drum | 356026C |
| | Formula 546 XLT | 5 Gallon Plastic Pail | 356229A |
| | | 55 Gallon Steel Drum | 356229C |
| | Formula 568 LT | 5 Gallon Plastic Pail | 356211A |
| | | 55 Gallon Steel Drum | 356211B |
| | Formula 5150 LT | 5 Gallon Plastic Pail | 356212A |
| | | 55 Gallon Steel Drum | 356212B |
| | Formula 5320 | 5 Gallon Plastic Pail | 356318A |
| | | 55 Gallon Steel Drum | 356318B |
| | Formula 5460 LT | 5 Gallon Plastic Pail | 356213A |
| 55 Gallon Steel Drum | | 356213B | |
| Synthetic High Temperature Gear Lubricant | Formula 577 | 1 Quart Container | 411-20-0025 |

Lubrication Table


| Description | Formula | Size | Part Numbers |
|--|------------------|---------------------------|--------------|
| H1 Food Grade Low Temperature Antiwear Gear Oils | Formula 532 FG | 5 Gallon Plastic Pail | 365551A |
| | | 55 Gallon Steel Drum | 365551B |
| | Formula 546 FG | 5 Gallon Plastic Pail | 365549A |
| | | 55 Gallon Steel Drum | 365549B |
| | Formula 568 FG | 5 Gallon Plastic Pail | 365550A |
| | | 55 Gallon Steel Drum | 365550B |
| H1 Food Grade Low Temperature Antiwear Gear Oils | Formula 532 FG | 5 Gallon Plastic Pail | 365551A |
| | | 55 Gallon Steel Drum | 365551B |
| | Formula 546 FG | 5 Gallon Plastic Pail | 365549A |
| | | 55 Gallon Steel Drum | 365549B |
| | Formula 568 FG | 5 Gallon Plastic Pail | 365550A |
| | | 55 Gallon Steel Drum | 365550B |
| H1 Food Grade Semi-Synthetic Gear Oils | Formula 5220 FG | 5 Gallon Plastic Pail | 575069 |
| | | 55 Gallon Steel Drum | 575070 |
| | Formula 5320 FG | 5 Gallon Plastic Pail | 575104 |
| | | 55 Gallon Steel Drum | 575105 |
| | Formula 5460 FG | 5 Gallon Plastic Pail | 575084 |
| | | 55 Gallon Steel Drum | 575026 |
| H1 Food Grade High Temperature Gear Oil | Formula 5PAG FG | 1 Gallon Plastic Bottle | 365583A |
| | | 5 Gallon Plastic Pail | 365583B |
| | | 16 Gallon Steel Keg | 365583C |
| H1 Food Grade High Temperature Gear Oil | Formula 57PAG FG | 1 Gallon Plastic Bottle | 365718A |
| | | 5 Gallon Plastic Pail | 365718B |
| | | 55 Gallon Steel Drum | 365718C |
| H1 Food Grade Refrigeration Compressor Fluid | Formula 646 | 5 Gallon Plastic Pail | 356283A |
| | | 16 Gallon Steel Keg | 356283B |
| | | 55 Gallon Steel Drum | 356283C |
| H2 Ammonia Refrigeration Compressor Fluid | Formula 668 | 55 Gallon Steel Drum | 356173A |
| H2 Non-Synthetic Vacuum Pump Oil | Formula 600VP | 5 Gallon Plastic Pail | 365584A |
| | | 16 Gallon Steel Keg | 365584B |
| | | 55 Gallon Steel Drum | 365584C |
| H1 Food Grade Vacuum Pump Oil | Formula 600VP FG | 5 Gallon Plastic Pail | 365584AFG |
| | | 16 Gallon Steel Keg | 365584BFG |
| | | 55 Gallon Steel Drum | 365584CFG |
| H1 Food Grade Hydraulic Oil | Formula 760 | 5 Gallon Plastic Pail | 356313 |
| | | 55 Gallon Steel Drum | 575078 |
| | Formula 762 | 5 Gallon Plastic Pail | 575078-5 |
| | | 55 Gallon Steel Drum | 575078 |
| | Formula 764 | 5 Gallon Plastic Pail | 575081-5 |
| | | 55 Gallon Steel Drum | 575081 |
| H1 Food Grade Antiwear Hydraulic Oil | Formula 777 | 5 Gallon Plastic Pail | 411-20-0017 |
| H1 Food Grade STA-SLICK Silicone Spray | Formula 8008 | 10 oz. Net Weight Aerosol | 575056 |
| H1 Food Grade Penetrating Oil Aerosol Spray | Formula 8009 | 11 oz. Net Weight Aerosol | 575052 |
| H1 Food Grade Assembly Spray Lubricant | Formula 8014 | 11 oz. Net Weight Aerosol | 575107 |
| H1 Food Grade Open Gear Spray Grease | Formula 8413 | 11 oz. Net Weight Aerosol | 575053 |
| H1 Food Grade Chain Lube | Formula 8414 | 11 oz. Net Weight Aerosol | 575054 |
| H1 Food Grade Air Line and Air Tool Oil | Formula 8474 FG | 16 Fluid oz. Bottle | 575103 |
| | | 1 Gallon Plastic Bottle | 575103-1 |
| | | 5 Gallon Plastic Pail | 575103-5 |
| | | 55 Gallon Steel Drum | 575103-55 |
| H1 Food Grade Belt Wash Pump Oil | Nonlabeled 1 | 2.5 Gallon Pail | 411-20-0012 |
| | | 1 Quart Container | 411-20-0016 |
| H1 Food Grade Pump Oil | Nonlabeled 2 | 1 Gallon Plastic Bottle | 411-20-0019 |
| PRoTHERM Select Heat Transfer Fluid | JBT PRoTHERM | 55 Gallon Drum | 411-10-0008 |
| | | 330 Gallon Tote | 411-10-0009 |

Technical Data Sheets



EXPLANATION OF CONTAINER LABEL

Product Description



Formula 410

Product Name

Formula 410

Formula 410 is a fully synthetic, NSF H1, food-grade lubricant developed specifically for **JBT FoodTech** equipment to provide the ultimate in oil lubrication in extreme cold environments. It is specially formulated for lubricating the chains, balls and rails of freezer driving systems. It has an extremely low pour point of -76°F (-60°C), yet has sufficient body to lubricate at higher temperatures found during defrosting, cleaning, sanitation and drying cycles. The additive package includes extreme-pressure and antiwear agents, and rust and oxidation inhibitors while its robust chemistry ensures deposit-free operation. Additionally, **Formula 410** readily separates from water and air, eliminating emulsions that would inhibit the oil's ability to lubricate critical moving parts under C-I-P cycles and high humidity environments. Do not add directly to the food. Use only the amount necessary to achieve the technical effect. Remove any excess lubricants from food contact surfaces. To be used in keeping with good manufacturing practices (GMPs). Contains polyalphaolefins.

**1622 First Street
Sandusky, OH 44870 USA**

FOR FOOD PLANT AND OTHER INDUSTRIAL USE

PRODUCT NUMBER: 301546ZA

BATCH CODE: L1113601

Product of USA

60.56 liters 16 US Gallons


PRECAUTIONS:
Do not breathe fumes, dusts or mists. Do not get in eyes, on skin, or on clothing when handling. Avoid heat, sparks, open flames, including pilot lights, static electricity and strong oxidizing agents. Use only with adequate engineering control and ventilation where fumes, dusts or mists may be generated. Wash thoroughly after handling. Store in a cool, dry place. Keep container closed. See MSDS for further details.

FIRE:
Use dry chemical, foam or CO₂.

SPILL/LEAK:
Remove all sources of ignition. Absorb with suitable floor sweep medium, like clay and shovel up excess. Scrape and sweep remainder. Consult local spill plan.

FIRST AID:
INHALATION: Remove to fresh air. See a physician if irritation persists.
EYE: Flush with water for 15 minutes. See a physician if irritation persists.
SKIN: Wash with soap and water. See a physician if irritation persists.
INGESTION: If swallowed, DO NOT induce vomiting. Call a physician.

| | | |
|---------------------|---|---|
| HEALTH | 1 | The user is responsible for determining proper Personal Protection Equipment. Refer to Material |
| FLAMMABILITY | 1 | |
| PHYSICAL HAZARD | 0 | |
| PERSONAL PROTECTION | | |



NSF Logo/
Registration Number

Parts Order 800-408-7788
Sandusky, OH, USA 419-626-0304
Sweden +46-42-490-4000
Singapore +65-6776-6220
Brazil +55-11-3055-1010
email: frigestein.info@jbtc.com
www.myjbtfoodtech.com

Product Batch Code

Part Number

Weight of Container and Container Size

HMIS Rating

Formula 2350 H1

Food Grade Silicone Fluid

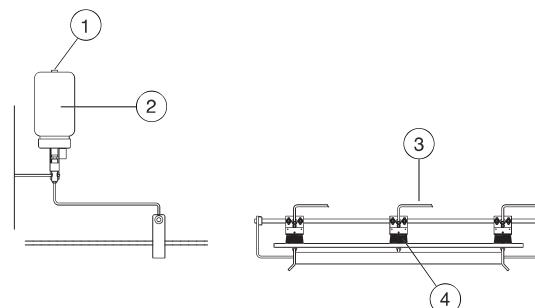


JBT FoodTech Formula 2350 H1 Food Grade Silicone Fluid is for specific lubrication and cleaning applications involved with the operation of our Low-Tension Equipment. Refer to your equipment manual for the exact instructions on proper application. The diagram points out the components, particularly the reservoir, which should be checked daily to ensure sufficient Formula 2350 is present to perform this vital operation. The fluid is formulated to provide smoother, tensionless movement of the belting over the track. Unlike non-recommended lubricants, Formula 2350 Silicone Fluid will not become gummy or tacky, and has no opportunity for rancidity like vegetable based products. Formula 2350 will help reduce cage amperage draw when used as recommended therefore saving energy as well.

Components

1. Flip-up lid
2. Reservoir
3. Needle valves
4. Lubricating brushes

The reservoir should be filled as needed with Formula 2350 silicone lubricant. Needle valves can be adjusted to maintain the optimum feed rate. Fill the reservoir via the flip-up lid.



Formula 2350 H1

Features

- Low surface energy
- Very little or no odor
- Withstands low serviceability temperatures
- Low environmental and or fire hazard
- High oxidation stability
- High water repellency

Benefits

- Water clear color so belts do not darken
- Will not turn rancid/spoil
- Totally tasteless so no chance of flavor transfer
- Will not build up and turn tacky or gummy
- Keeps belts sliding as intended to save on draw
- Keeps tension low

| Typical Properties | 2350 |
|--|-------------|
| Viscosity @ 25°C, cSt | 350.0 |
| Viscosity @ 40°C, cSt | 266.0 |
| Viscosity @ 100°C, cSt | 108.4 |
| Viscosity Index | 433 |
| Pour Point, °F | -85 |
| Pour Point, °C | -65 |
| Flash Point, °F | 689 |
| Flash Point, °C | 365 |
| Specific Gravity @ 77°F(25°C) | 0.9765 |
| Density, lbs/gal | 8.1 |
| Dielectric Strength @ 77°F(25°C) volts/mil | 400 |
| Texture | Light Syrup |
| Color | Water White |
| MICRONOX® | Yes |
| NSF Non-Food Program | H1 Applied |
| CFIA | Yes |

Designed specifically for JBT FoodTech Low-Tension Freezing Equipment using the JBT FoodTech track oiler as shown on the other side of this document. The feed rate of the oiler is entirely dependent on the spiral dimension, speed, temperature and application. This rate should be adjusted to balance and economize the oil while maintaining acceptable belt tension.



Part Numbers:

Formula 2350 H1

N0120021 Gallon Plastic Bottle

N0120022 5 Gallon Round Plastic Pail

To place an order or receive additional information call:
Order Entry Department 800-408-7788 option 3,
Fax 507-645-9664, email: process-solutions@jbt.com



NSF Reg. Applied for
Category Code H1

www.jbtfoodtech.com

Formula 301 and 302

Greases (GREASE L in Preventative Maintenance Manual)



JBT FoodTech H1 Food-Grade Greases #LT and #2 are manufactured with an advanced complex soap thickener that helps to provide formerly unheard of mechanical stability along with exceptionally high load capability. At the same time, they exhibit remarkable water and chemical resistance while providing outstanding rust and corrosion control.

JBT Formula 301 in its LT (NLGI Grade # 0.5 – 1) formulation, offers these characteristics in an easily pumpable version that is also very capable of handling high speeds like those found in bottling and can seaming. JBT Formula 302 as an NLGI #2 grade, with all of the performance qualities it offers, can easily become the one grease needed for an entire plant. Whether for food-grade or industrial applications, Formula 302 has the strength and body to handle them all.

Suggested uses:

- Highly loaded gear sets and bearings, especially those exposed to wash-down and chemicals
- High shock pellet mills and other grinding and reducing operations
- Fork lift trucks and material handling equipment
- Grain presses and grain packaging equipment
- Bearings that oscillate between operating temps of 500 °F to cool down of ambient on a frequent basis

Formula 301 and 302

Features

- Very good compatibility with other greases
- Outstanding rust and corrosion control
- Excellent high temperature performance and stability
- Superb water washout and chemical resistance

Benefits

- Lubricated parts have a greatly extended life along with markedly reduced wear
- They offer the ability to consolidate many greases from throughout the plant
- Protection from water and chemicals provide longer bearing life and reduced grease consumption
- Mechanical stability allows for greatly increased greasing intervals saving on labor



| Typical Properties | 301 | 302 |
|----------------------------------|-------------------------|----------------------------------|
| NLGI Grade | #0.5 -1 | #2 |
| Penetration, worked/unworked | 320-345/320-345 | 265-295/265-295 |
| Dropping Point °F (°C) | 500°F (260°C) | 600°F (316°C) |
| Base Fluid Viscosity @ 40° C cSt | 95 | 95 |
| Base Fluid Viscosity Index | 92 | 92 |
| Base Fluid Flash Point °F (°C) | 482°F (250°C) | 482°F (250°C) |
| Base Fluid Pour Point °F (°C) | 10°F (-12°C) | 10°F (-12°C) |
| Water Washout @ 175°F | 1.5 | 0.5 |
| Four-Ball Wear mm | 0.48 | 0.38 |
| Timken OK Load lbs | 50 | 59.5 |
| MICRONOX® | Yes | Yes |
| NSF Non-Food Program | H1 registration #139550 | H1 registration #139543, #141431 |
| CFIA | Yes | Yes |

Part Numbers:

Formula 301

575063-10 10-Pack Grease Tubes

575064 35# Pail

Formula 302

575066-10 10-Pack Grease Tubes

575067 35# Pail

**To place an order or receive additional information call:
Order Entry Department 800-408-7788 option 3,
Fax 507-645-9664, email: process-solutions@jbt.com**



NSF See Chart
Category Code H1

www.jbtfoodtech.com

Formula 322

Antiwear grease, protection for cold environments
(GREASE M, K in Preventative Maintenance Manual)



JBT FoodTech Formula 322 is a fully synthetic H1 Food-Grade grease developed to satisfy the extreme temperature conditions found in food processing freezer applications. The base soap is a revolutionary food-grade thickener which provides exceptional mechanical stability, very high load-carrying ability and remarkable rust and corrosion control. Additionally, Formula 322 has outstanding water resistance characteristics, a vital property for these freezers with C-I-P and sanitation cycles built in. The synthetic base oil provides excellent oxidation stability, antiwear performance and a “freezer-friendly” pour point (the temperature at which an oil will no longer flow freely) of -94°F (-70°C). The combination of the synthetic base oil and advanced thickener gives Formula 322 unsurpassed performance in the sub zero environments found with JBT FoodTech freezing units, and will still maintain excellent body during cleaning cycles.

Formula 322 is built with performance in mind. It has excellent Extreme Pressure (EP additives decrease wear of the parts of the gears or bearings exposed to very high pressures while operating) and Antiwear (AW additives prevent metal-to-metal contact between parts of gears or bearings) characteristics which are demonstrated by its very high Timken OK value of 60 pounds or greater and 4-Ball EP LWI results of over 60 kgf with a weld point of 500 kgf. These results come from ASTM D 2509 and ASTM D 2596, respectively. Formula 322 handles rust and corrosion by outperforming standard Corrosion Preventive Properties Test (ASTM D 1743) and a Severe Salt Fog Test (ASTM B 117) in excess of 300 hours. Water washout (ASTM D 1264) results of 4.5% weight loss give superior marks of quality for water resistance, a given in the food processing arena.

Formula 322

Features

- Unsurpassed low-temperature performance
- Very good compatibility with most other greases
- Outstanding rust and corrosion-control
- Excellent pumpability character
- High water washout and chemical resistance
- Unsurpassed extreme pressure and anti-wear properties

Benefits

- Protection for freezing equipment
- Extended grease intervals
- Suitable for automated greasing systems
- Greatly extended life for parts
- Rust preventative performance
- Protection from effects of water and chemicals



| Typical Properties | 322 |
|-------------------------|---------------|
| Penetration, worked | 320-340 |
| Dropping point, minimum | 525°F (274°C) |
| Base oil type | PAO synthetic |
| Base fluid | |
| Viscosity @ 40°C, cSt | 16.8 |
| Viscosity @ 100°F, SUS | 156 |
| Viscosity @ 100°C, cSt | 3.9 |
| Viscosity @ 210°F, SUS | 46 |
| Viscosity index | 140 |
| Flash point | 460°F (238°C) |
| Fire point | 500°F (260°C) |
| Pour point | -94°F (-70°C) |
| Color | Off-white |
| MICRONOX® | Yes |
| NSF Non-Food Program | H1 Applied |
| CFIA | No |



Part Number:

Formula 322

356210A 14 Ounce
Grease Tubes.
Minimum order 10.

To place an order or receive additional information call:
Order Entry Department 800-408-7788 option 3,
Fax 507-645-9664, email: process-solutions@jbt.com



NSF Reg. Applied for
Category Code H1

www.jbtfoodtech.com

Formula 410

Antiwear very low-temperature H1 food-grade lubricant
(OIL J in Preventative Maintenance Manual)



JBT FoodTech Formula 410 is a fully synthetic, food-grade, NSF H1 registered lubricating oil designed specifically for use in JBT FoodTech Frigoscandia freezing equipment and the extreme cold environments found in many food processing facilities. The base fluid is FDA approved and has an extremely low pour point (the temperature at which an oil will no longer flow freely) of -76°F (-60°C), yet has sufficient body to lubricate at all temperatures from freezing, defrosting, C-I-P (clean-in-place) all the way through sanitizing and drying cycles.

Formula 410 has been created with performance in mind. The base oil has been effectively additized with Extreme Pressure (EP additives decrease wear of the parts of the rails, roller balls or chains that can be exposed to very high pressures while operating) and Antiwear agents (AW additives prevent metal-to-metal contact between parts of gears or bearings). Rust and oxidation inhibitors are also added so that its robust chemistry can ensure deposit-free, continual lubricity during operation of the freezer. Additionally, a unique food-grade tackifier is present in the formula to provide lubricant adhesion and limited non-drip characteristics for the balls and rails.

Formula 410

Features

- Excellent super low-temperature performance
- Outstanding anti-wear protection
- Superior rust and oxidation properties
- Extremely effective lubricity throughout the full Operational temperature spectrum
- Enhanced tackiness for cling and adherence
- Meets H1 requirements for incidental food contact

Benefits

- Protects critical moving parts through full cycle
- Provides longer life to crucial freezer components
- Allows for more throughput by limiting downtime
- Cold performance allows for lower operating temperature which increases production
- Use of OEM lubricant keeps warranty



Whether you maintain JBT FoodTech Frigoscandia, GYRoCOMPACT® spiral freezer or a Northfield Low-Tension Freezer, Formula 410 is the ultimate solution for converting to an effective food-grade lubricant.

| Typical Properties | 410 |
|-------------------------------|--|
| Approximate ISO Grade | 32 |
| Approximate SAE Grade | 10 |
| Viscosity @ -40°C, cSt | 7800 |
| Viscosity @ -18°C, cSt | 910 |
| Viscosity @ 40°C, cSt | 32.6 |
| Viscosity @ 100°C, cSt | 6.0 |
| Viscosity Index | 129 |
| Pour Point | -76°F (-60°C) |
| Flash Point | 464°F (240°C) |
| Fire Point | 518°F (270°C) |
| Specific Gravity, ASTM D 1298 | 0.8314 |
| Color | Clear (UV exposure can cause pink hue) |
| MICRONOX® | Yes |
| NSF Non-Food Program | 127280/H1 |
| CFIA | Yes |



Part Numbers:

Formula 410

- 301546C** Gallon Plastic Bottle
- 350945C** 5 Gallon Round Plastic Pail
- 350945CS** 5 Gallon Square, Closed Head, plastic Pail
- 301546ZA** 16 Gallon Steel Keg
- 350945B** 55 Gallon Steel Drum
- 350945T** 275 Gallon Hard Plastic Tote

To place an order or receive additional information call:
Order Entry Department 800-408-7788 option 3,
Fax 507-645-9664, email: process-solutions@jbt.com



NSF Reg. No. 127280
Category Code H1

www.jbtfoodtech.com

Formula 410

Aerosol and Trigger Spray
(OIL G, H in Preventative Maintenance Manual)



JBT FoodTech 410 Aerosol Spray is a fully synthetic, food-grade, H1 authorized lubricating oil designed specifically for use in JBT FoodTech Frigoscandia freezing equipment and the extreme cold environments found in many food processing facilities in a convenient aerosol spray can. The base fluid is FDA approved and has an extremely low pour point (the temperatures at which an oil will no longer flow freely) of -76°F (-60°C), yet has sufficient body to lubricate at all temperatures from freezing, defrosting, C-I-P (clean-in-place) all the way through sanitizing and drying cycles. We have added the JBT FoodTech Formula 410 Trigger Spray for a “GREENER” supplement to the aerosol package. The bottles have an oil resistant label and can be refilled with same product from a larger package for even more economy (using GMP).

Formula 410 has been created with performance in mind. The base oil has been effectively additized with Extreme Pressure (EP additives decrease wear of the parts of the rails, roller balls or chains, that can be exposed to very high pressures while operating) and Antiwear agents (AW additives prevent metal to metal contact between parts, gears or bearings) along with rust and oxidation inhibitors so that its robust chemistry can ensure deposit free, continual lubricity during operation of the freezer. Additionally, a unique food grade tackifier is present in the formula to provide lubricant adhesion and limited non-drip characteristics for the balls and rails.

Formula 410

Features

- Excellent super low-temperature performance
- Outstanding anti-wear protection
- Superior rust and oxidation properties
- Extremely effective lubricity throughout the full operational temperature spectrum
- Enhanced tackiness for cling and adherence
- Meets H1 requirements for incidental food contact
- Extremely convenient aerosol package designed to go

Benefits

- Protects critical moving parts through full cycle
- Provides longer life to crucial freezer components
- Allows for more throughput by limiting downtime
- Cold performance allows for lower operating temperature which increases production
- Aerosol can be carried into a freezer in a back pocket
- Use of OEM lubricant keeps warranty



Whether you maintain a JBT FoodTech Frigoscandia, GYRoCOMPACT® spiral freezer or a Low-Tension Freezer, Formula 410 is the ultimate solution for converting to an effective food-grade lubricant.

| Typical Properties | 410 Aerosol * | 410 Trigger |
|-------------------------------|-----------------|--|
| OIL | | |
| Approximate ISO Grade | 32 | 32 |
| Approximate SAE Grade | 10 | 10 |
| Viscosity @ -40°C, cSt | 7800 | 7800 |
| Viscosity @ -18°C, cSt | 910 | 910 |
| Viscosity @ 40°C, cSt | 32.6 | 32.6 |
| Viscosity @ 100°C, cSt | 6.0 | 6.0 |
| Viscosity Index | 129 | 129 |
| Pour Point | -76°F (-60°C) | -76°F (-60°C) |
| Flash Point | 464°F (240°C) | 464°F (240°C) |
| Fire Point | 518°F (270°C) | 518°F (270°C) |
| Specific Gravity, ASTM D 1298 | 0.8314 | 0.8314 |
| Color | Clear | Clear (UV exposure can cause pink hue) |
| PROPELLANT | Propane, Butane | |
| Flash Point | -94°F (-74°C) | |
| MICRONOX® | Yes | Yes |
| NSF Non-Food Program | Meets H1 | H1 NSF# 127280 |
| CFIA | Yes | Yes |

* properties for the oil



Part Number:

Formula 410

350945A 11 Ounce Net Weight Aerosol

301546TR 16 Fluid Ounce Trigger Bottle

To place an order or receive additional information call:
Order Entry Department 800-408-7788 option 3,
Fax 507-645-9664, email: process-solutions@jbt.com

www.jbtfoodtech.com

Formula 410 XLT

Antiwear extreme low-temperature H1 food-grade lubricant
(OIL J in Preventative Maintenance Manual)



JBT FoodTech Formula 410 XLT is a 100% synthetic, food-grade, H1 lubricating oil designed specifically for use in JBT FoodTech Frigoscandia freezing equipment and the extreme cold environments found in many food processing facilities, particularly when even colder temperatures are the goal. Formula 410 XLT is also the recommended low temp fluid to be used in Northfield Freezing “Low Tension Systems” that use the Bull Chain Automatic Oiling component. The base fluid is FDA approved and has an extremely low pour point of -85°F (-65°C) (the temperature at which an oil will no longer flow freely), yet has sufficient body to lubricate at all temperatures from freezing, defrosting, C-I-P (clean-in-place) all the way through sanitizing and drying cycles.

Formula 410 XLT has been created with extreme performance in mind. The base oil has been effectively additized with Extreme Pressure (EP additives decrease wear on the parts of the rails, roller balls or chains that can be exposed to very high pressures while operating) and Antiwear agents (AW additives prevent metal-to-metal contact between parts of gears or bearings). Rust and oxidation inhibitors are also added so that it's robust chemistry can ensure deposit-free, continual lubricity during operation of the freezer. Additionally, a unique food-grade tackifier is present in the formula to provide lubricant adhesion and limited non-drip characteristics for the balls, rails or bull chain.

Formula 410 XLT

Features

- Excellent super low-temperature performance
- Outstanding anti-wear protection
- Superior rust and oxidation properties
- Extremely effective lubricity throughout the full operational temperature spectrum
- Enhanced tackiness for cling and adherence
- Meets H1 requirements for incidental food contact

Benefits

- Protects critical moving parts through full cycle
- Provides longer life to crucial freezer components
- Allows for more throughput by limiting downtime
- Cold performance allows for lower operating temperature which increases production
- Use of OEM lubricant keeps warranty



Whether you maintain a JBT FoodTech Frigoscandia, GYRoCOMPACT® spiral freezer or a Northfield Low-Tension Freezer, Formula 410 XLT is the ultimate solution for converting to an effective, very low temperature food-grade lubricant.

| Typical Properties | 410 XLT |
|-------------------------------|--|
| Approximate ISO Grade | 10-15 |
| Approximate SAE Grade | 5 |
| Viscosity @ -40°C, cSt | 1800 |
| Viscosity @ 40°C, cSt | 13.0 |
| Viscosity @ 100°C, cSt | 3.25 |
| Viscosity Index | 119 |
| Pour Point | -85°F (-65°C) |
| Flash Point | 374°F (190°C) |
| Fire Point | 414°F (212°C) |
| Specific Gravity, ASTM D 1298 | 0.8160 |
| Color | Clear (UV exposure can cause pink hue) |
| MICRONOX® | Yes |
| NSF Non-Food Program | H1 Applied |
| CFIA | Yes |



Part Numbers:

Formula 410 XLT

- 356176A** Gallon Plastic Bottle
- 356176B** 16 Gallon Steel Keg
- 356176C** 55 Gallon Steel Drum
- 356176T** 275 Gallon Hard Plastic Tote

To place an order or receive additional information call:
Order Entry Department 800-408-7788 option 3,
Fax 507-645-9664, email: process-solutions@jbt.com



NSF Reg. Applied for
Category Code H1

www.jbtfoodtech.com

Formula 440

Proofer and Steamer Oil (OIL U, Preventative Maintenance Manual)



JBT FoodTech Formula 440 Proofer and Steamer Oil is a fully synthetic, NSF H1 registered, Food Grade Lubricant, specially formulated for use in JBT FoodTech Equipment. It was developed specifically to provide the ultimate in oil lubrication in environments with high relative humidity and in the temperature range that is typical on steaming and proofing applications. Its special formulation was tailored to achieve the highest performance when lubricating chains, balls and rails that are part of belt driven systems. It has a low pour point of -44°F (-42°C), yet has a high flash point of 464°F (240°C), that combined with its balanced viscosity ensure sufficient body to lubricate at higher temperatures typically found on Steaming applications. The additive package includes an effective combination of Extreme Pressure and Antiwear agents, and rust and oxidation inhibitors while its robust chemistry ensures deposit free operation.

Additionally, Formula 440 Proofer and Steamer Oil will readily separate from water and air, eliminating emulsions that would inhibit the oils ability to lubricate critical moving parts under C-I-P cycles and high condensation environments.

JBT Food Tech Formula 440 Proofer and Steamer Oil provides critical performance enhancements including reduced operational wear, minimal sludge or deposit generation and superior rust and oxidation stability, a definite enemy in these kinds of operation, for long trouble free life. Compounded with 100% Synthetic base fluids and the best in additive technologies, Formula 440 provides superior performance over other food grade lubricating oils which have not been designed for these extreme applications.

Formula 440

Features

- Outstanding antiwear protection
- Resists the formation of foam, sludge and varnish
- Excellent rust and oxidation stability
- Hydrolytically stable, readily separates from water
- Has recommendations for many gears, vanes and piston pumps

Benefits

- Reduces wear (up to 95%) and minimal sludge deposit generation
- Performs well in both low and high temperatures
- Helps extend equipment life and lubrication intervals
- Promotes trouble-free operation
- Readily separates from water to ensure easy drainage



| Typical Properties | 440 |
|-----------------------------------|-------------------|
| Approximate ISO Grade | 100 |
| Synthetic Gear Classification | 3S |
| Viscosity @ 40°C, cSt | 100.0 |
| Viscosity @ 100°C, cSt | 13.0 |
| Viscosity Index | 127 |
| Pour Point, °F | -44 |
| Pour Point, °C | -42 |
| Flash Point, °F | 464 |
| Flash Point, °C | 240 |
| Fire Point, °F | 572 |
| Fire Point, °C | 300 |
| Four-Ball wear, Scar Diameter, mm | 0.40 |
| Copper Strip Corrosion | 1a |
| Rust Test Distilled Water | pass |
| Rust Test Synthetic Sea Water | pass |
| Color | Clear Water White |
| MICRONOX® | Yes |
| NSF Non-Food Program | 139654/H1 |
| CFIA | Yes |



Part Numbers:

Formula 440

- 365436A** Gallon Plastic Bottle
- 365436B** 5 Gallon Round Plastic Pail
- 365436D** 55 Gallon Steel Drum
- 365636E** 275 Gallon Hard Plastic Tote

To place an order or receive additional information call:
Order Entry Department 800-408-7788 option 3,
Fax 507-645-9664, email: process-solutions@jbt.com



NSF Reg. No. 139654
Category Code H1

www.jbtfoodtech.com

Formula 491

Antiwear high-temperature H1 food-grade lubricant



JBT FoodTech Formula 491 is a custom-blended, high-temperature, food-grade H1 lubricating oil, formulated specifically for use in JBT FoodTech STEIN GYROCOMPACT® Ovens. It is intended to reduce down-time, extend component and equipment life and generally provide smooth, trouble free operation. A carefully selected and balanced additive package provides a low-depositing, worry free lubricant with a high flash point of 482°F (250°C), exceptional wear protection and unsurpassed thermal and oxidative stability. The extremely low volatility maximizes “dwell time”, increases the time available for the lubricant to migrate to critical friction points and reduces lubricant consumption.

Formula 491 provides a tenacious film that adheres to oven rails and balls through all aspects of the startup, cook and CIP processes.

Formula 491 is compatible with mineral oil, as well as most synthetic oils.

- * To ensure optimal performance, it is recommended that the system be thoroughly drained (and cleaned, if needed), before installing this product.
- * Formula 491 is not compatible with polyglycol-based oils. Thorough flushing of the system is required prior to changing over to Formula 491.

Formula 491

Features

- Excellent high-temperature lubrication characteristics
- Made from superior base stocks
- Refined food-grade additives provide peak performance
- Superior quality control
- Consistent viscosities of the fluid
- Meets H1 requirements for incidental food contact
- Outstanding antiwear protection
- High-quality food-grade tackifiers provide ultimate adhesion to balls and rails

Benefits

- Protects critical moving parts throughout the full operating cycle
- Consistent viscosities result in smoother operations
- High-quality base stocks and additives result in less line plugging and blockage
- Use of OEM fluid helps assure proper operation while keeping warranty intact



Formula 491 is formulated specifically for use in your Stein GYRoCOMPACT oven.

| Typical Properties | 491 |
|--------------------|----------------|
| Viscosity @ 40°C | 361 cSt |
| Viscosity @ 100°C | 27 cSt |
| Viscosity Index | 102 |
| 4-Ball Wear | 0.31mm |
| Flash Point | 482°F (250°C) |
| Fire Point | 583°F (306°C) |
| RPVOT | 1726 min. |
| Specific Gravity | 0.8833 |
| Density | 7.355 lbs./gal |

Part Numbers:

Formula 491

- 411-20-0028-001** 4/1 Gallon Plastic Bottles per Case
- 411-20-0028-005** 5 Gallon Round Plastic Pail
- 411-20-0028-055** 55 Gallon Steel C-H Drum
- 411-20-0028-275** 275 Gallon Hard Caged IBC Tote

To place an order or receive additional information call:
Order Entry Department 800 408 7788 option 2,
Fax 419 626 4253, email: naparts@jbt.com

www.jbtfoodtech.com

Formula 499 Lubricant

A USDA/FDA approved lubricant for oven chains



Formula 499 is an inert, ashless synthetic lubricant which is odorless and tasteless. It combines unique lubricating features with high thermal stability making it the ideal choice for high demand oven chain lubrication. Formula 499 is the preferred lubricant for high demand applications where the product being cooked requires high belt speeds and/or has high sauce content.

Benefits

USDA/FDA Approved - Formula 499 meets Title 21, CFR 177.1430 (contact with food surfaces), Title 21, CFR 178.3570 (incidental food contact) and Title 21, CFR 178.3910 (suitable for surface lubricant used in the manufacturing of metallic articles used in food contact).

Excellent Chain Adhesion - Formula 499 forms a tacky, tenacious synthetic oil film on both metallic and ceramic chain material.

100% Water Resistant - Formula 499 will not emulsify with moisture and resists wash off during normal cleaning procedures.

High Thermal Stability - Formula 499 will not oxidize or produce hard deposits in ovens nor will it produce noxious or harmful vapors during oven operation.

Long Lasting Film – Formula 499 greatly reduces the need for frequent re-lubrication and normally reduces lube consumption by 30-45%.

Part Numbers:

Formula 499

| | |
|-----------------|-----------------|
| 411-20-0099-005 | 5 Gallon Pail |
| 411-20-0099-055 | 55 Gallon Drum |
| 411-20-0099-320 | 320 Gallon Tote |

Typical Properties:

| | |
|-------------------------------|-------|
| Approximate ISO Grade | 320 |
| Approximate SAE Grade | 140 |
| Viscosity @ 40° C | 325 |
| Viscosity @ 100° C | 31 |
| Viscosity index | 130 |
| Pour Point (° F) | -44 |
| Flash Point (° F) | 495 |
| Specific Gravity, ASTM D 1298 | 0.861 |
| Color | Clear |
| NSF Non-Food Program | H1 |

To place an order or receive additional information, contact a customer service representative at 800 408 7788 option 2 or email: naparts@jbt.com

Formula 500 Series

Antiwear protection for cold gear box environments



JBT FoodTech Formula 500 Series Gear Oils are designed for severe-duty conditions where extreme temperatures can cause serious problems with conventional mineral oil or lesser grade synthetic based gear lubricants. They offer excellent gear protection and extended service in multiple applications by maintaining consistent viscosity while incorporating the added benefits of great anti-wear, excellent rust protection and high resistance to the degradation of water and trapped moisture.

Formula 500 Series Gear Oils have a high viscosity index across the board and are additized to be shear-stable and oxidation resistant preventing viscosity loss from mechanical shear and viscosity increase from oxidation. These characteristics along with their extremely low pour points allow for extended temperature protection and performance, especially in the severe environments surrounding freezing equipment found in food processing.

These oils will hold their fluid properties longer as temperatures drop. They aid in easier start-ups and quicker lubrication circulation limiting the need for ramping up or use of sump heaters. When temperatures rise during C-I-P, sanitation or drying cycles, Formula 500 Series Gear Oils maintain a thick lubricating film reducing metal-to-metal contact and gearing component wear. The additive package is non-detergent and ashless and has included foam suppressants.

Formula 500 Series Gear Oils exhibit excellent stability in the presence of water and superior demulsibility, which allows for the easy separation of water making draining off excess water an easy operation.

Formula 500 Series Gear Oils meet USDA H2 requirements for lubricants used in federally inspected meat and poultry plants where there is no possibility of food contact. The "new" Formula 500 FG Series gear oils are now offered for applications desiring USDA H1 food grade for incidental contact.*

Formula 500 Series

Features

- Long life oil providing extended drains
- Thermal stability
- Fortified for anti-wear, antifoaming, Antirust and antioxidation
- Superior cold temperature performance
- Hydrolytically stable and readily separates from water

Benefits

- Maintenance time and costs are reduced
- Handles temperature swings caused by Programmed cycles
- Eases start-ups from cold
- Helps gear boxes last longer
- Meets AGMA R&O and synthetic gear oil classifications
- High affinity to metal surfaces
- Extremely low pour points

Part Numbers:

Formula 500 Series

| | | | |
|----------------------------------|-----------------------------|-----------------------------------|-----------------------------|
| 532* 356319A | 5 Gallon Round Plastic Pail | 568 LT* 356211A | 5 Gallon Round Plastic Pail |
| 356319B | 55 Gallon Steel Drum | 356211B | 55 Gallon Steel Drum |
| 546* 356026A | 5 Gallon Round Plastic Pail | 5150 LT 356212A | 5 Gallon Round Plastic Pail |
| 356026B | 16 Gallon Steel Keg | 356212B | 55 Gallon Steel Drum |
| 356026C | 55 Gallon Steel Drum | 5320* 356318A | 5 Gallon Round Plastic Pail |
| 546 XLT 356229A | 5 Gallon Round Plastic Pail | 356318B | 55 Gallon Steel Drum |
| 356229C | 55 Gallon Steel Drum | 5460 LT* 356213A | 5 Gallon Round Plastic Pail |
| | | 356213B | 55 Gallon Steel Drum |

* See last paragraph on front page. Also available in food grade 500FG Series.

| Typical Properties Inspection | 532 | 546 | 546 XLT | 568 LT | 5150 LT | 5320 | 5460 LT |
|-------------------------------|--------|-----------|---------|--------|---------|--------|---------|
| ISO Grade | 32 | 46 | 46 | 68 | 150 | 320 | 460 |
| SAE Grade | 10 | 20 | 20 | 30 | 50 | -- | -- |
| AGMA Class | 0S | 1S | 1S | 2S | 4S | 6S | 7S |
| VISC. @ 40°C, cSt | 29.3 | 44.6 | 44.8 | 68.4 | 150.8 | 321.9 | 457.9 |
| VISC. @ 100°F, cSt | 5.9 | 7.5 | 9.8 | 10.45 | 18.5 | 31.7 | 39.1 |
| Viscosity Index | 153 | 134 | 214 | 140 | 137 | 137 | 131 |
| Pour Point, °F | -69 | -60 | -49 | -54 | -36 | -13 | 0 |
| Pour Point, °C | -56 | -51 | -45 | -48 | -38 | -25 | -18 |
| Flash Point, °F | 464 | 500 | 406 | 471 | 500 | 500 | 500 |
| Flash Point, °C | 240 | 260 | 208 | 244 | 260 | 260 | 260 |
| Fire Point, °F | 536 | 568 | 460 | 547 | 572 | 568 | 579 |
| Fire Point, °C | 280 | 298 | 238 | 286 | 300 | 298 | 304 |
| Color | Red | Red | Red | Red | Red | Red | Red |
| Specific Gravity (Typical) | 0.8353 | 0.8373 | 0.8398 | 0.8428 | 0.8514 | 0.8591 | 0.8633 |
| Copper Corrosion | 1b | 1b | 1b | 1b | 1b | 1b | 1b |
| Rust Prevention | Pass | Pass | Pass | Pass | Pass | Pass | Pass |
| Four-Ball Wear, mm | 0.40 | 0.40 | 0.40 | 0.40 | 0.40 | 0.35 | 0.35 |
| NSF Non-Food Program | -- | 138304/H2 | -- | -- | -- | -- | -- |
| CFIA | No | Yes | No | No | Yes | No | No |

**To place an order or receive additional information call:
Order Entry Department 800-408-7788 option 3,
Fax 507-645-9664, email: process-solutions@jbt.com**

www.jbtfoodtech.com



Formula 500 FG Series

Antiwear protection for cold gear box environments
(OIL A, B and OIL F in Preventative Maintenance Manual)



JBT FoodTech Formula 500 FG Series Gear Oils are compounded for use in severe-duty conditions where extreme temperatures can cause serious problems with conventional mineral oil or lesser grade synthetic based gear lubricants, plus they have the added benefit of being H1 Food Grade, for incidental food contact. Like our H2 Formula 500 Series gear oils, the FG Synthetic line up of gear oils are compounded with 100% PAO based fluids and the best available additive technologies to provide superior performance. They contain high doses of antiwear agents, rust inhibitors and viscosity improvers, which along with their antioxidant chemistry ensure, excellent long term wear protection and deposit free operation. Formula 500 FG Series Gear Oils are designed to

operate in extremely low ambient temperatures, while still being able to maintain sufficient body to perform throughout the freezer cycle from freeze through C-I-P and sanitation or drying.

The results of these high quality formulations and additives are longer drain intervals, easier start up at colder temperatures, reduced wear and amperage draw and of course limited downtime. As the H2 Formula 500 Series Gear Oils, our Food Grade 500 FG oils also exhibit excellent stability in the presence of water and superior demulsibility, which allows for the easy separation of water making draining off excess condensation an easy operation.

Formula 500 FG Series

Features

- Long life oil providing extended drain intervals
- Meets requirements of USDA H1
- Kosher and parve certified
- Fortified for anti-wear, antifoaming, antirust and antioxidant
- Hydrolytical stability to readily separate water
- Designed for extreme-temperature operations as found in JBT FoodTech freezing equipment

Benefits

- Consistent use will reduce maintenance time and cost
- Handles temperature swings caused by program cycles
- Eases cold start-ups
- Meets or exceeds all AGMA R&O and synthetic gear oil standards
- extends gear box life by reducing the potential for rust and corrosion to the system components
- offers a high affinity to metal surfaces



Part Numbers:

Formula 500 FG Series

| | |
|----------------|-----------------------------|
| 532 FG | |
| 365551A | 5 Gallon Round Plastic Pail |
| 365551B | 55 Gallon Steel Drum |
| 546 FG | |
| 365549A | 5 Gallon Round Plastic Pail |
| 365549B | 55 Gallon Steel Drum |
| 568 FG | |
| 365550A | 5 Gallon Round Plastic Pail |
| 365550B | 55 Gallon Steel Drum |

| Typical Properties | 532 FG | 546 FG | 568 FG |
|------------------------------------|-------------|-------------|-------------|
| Viscosity @ 40°C, cSt | 32.4 | 46.9 | 68.3 |
| Viscosity @ 100°C, cSt | 5.9 | 7.6 | 9.8 |
| Viscosity Index | 129 | 128 | 125 |
| ISO Viscosity Grade | 32 | 46 | 68 |
| AGMA Synthetic Gear Classification | OS | 1S | 2S |
| Pour Point, °F (°C) | -65 (-54) | -44 (-42) | -44 (-42) |
| Flash Point, °F (°C) | 453 (234) | 464 (240) | 475 (246) |
| Fire Point, °F (°C) | 500 (260) | 504 (262) | 561 (294) |
| Copper Strip Corrosion | 1a | 1a | 1a |
| SAE Grade | 10 | 20 | 30 |
| Rust Test | | | |
| Method A - Distilled Water | Pass | Pass | Pass |
| Method B - Synthetic Sea Water | Pass | Pass | Pass |
| Four-Ball Wear, Scar Diameter, mm | 0.45 | 0.45 | 0.45 |
| Specific Gravity (typical) | .8328 | .8378 | .8368 |
| Color | Water White | Water White | Water White |
| MICRONOX® | Yes | Yes | Yes |
| NSF Non-Food Program | H1 Applied | H1 Applied | H1 Applied |
| CFIA | Yes | Yes | Yes |

**To place an order or receive additional information call:
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Fax 507-645-9664, email: process-solutions@jbt.com**



NSF Reg. Applied for
Category Code H1

www.jbtfoodtech.com

Formula 500 FGSS

Semi-Synthetic Gear Oils

(OIL D, E, V for 5220 FG and OIL X for 5460 FG
in Preventative Maintenance Manual)



JBT FoodTech H1 Food-Grade ISO Grade Gear Oils are uniquely formulated for use in Food and Beverage processing gear box applications that formerly may have needed an Industrial or H2 Grade oil. They round out the JBT 500 FG Series line of Gear Oils with a Semi-Synthetic, more competitive, fully additized level of premium performance gear oils for the less specialized gear boxes of a general nature found in Food and Beverage Processors.

They are intended for applications of high load and shock like industrial bevel, herringbone, spur, helical and worm gears, chain drives and sprockets. They can handle the most severe operating conditions, and because of their semi synthetic formulation, are also ideal for combating seasonal operational swings.

JBT Formula 500 FG Series Semi-Synthetic Gear oils are compatible with most gear box seals, most synthetic gear oils and most petroleum gear oils (with the exception of Poly Glycol type oils).

Formula 500 FGSS

Features

- Outstanding extreme pressure protection
- Advanced additive technology
- Extremely water resistant
- Provide maximum rust and oxidation protection

Benefits

- The high film strength helps the extreme pressure additives to perform throughout the gear box
- The formulation provides longer component life and reduce downtime
- The high level of water resistance provides longer lubricant life and reduced degradation.
- By eliminating rust and oxidation, one limits the effect of these contaminants which ultimately shorten the life of the gearbox and reduce the effectiveness of the oil.



| Typical Properties | 5220 FG | 5320 FG | 5460 FG |
|--------------------------|------------------------------------|-----------------|------------------------------------|
| Viscosity @40°C cSt | 221.4 | 314.2 | 458.3 |
| Viscosity Index | 101 | 102 | 100 |
| Pour Point °F (°C) | +14°F (-10°C) | 0°F (-18°C) | +10°F (-12°C) |
| Flash Point °F (°C) | 465°F (241°C) | 433°F (223°C) | 465°F (239°C) |
| Rust Test | | | |
| Method A Distilled Water | Pass | Pass | Pass |
| Method A Distilled Water | Pass | Pass | Pass |
| Four-Ball Wear mm | 0.38 | 0.38 | 0.38 |
| AGMA Class | 5 EP | 6 EP | 7 EP |
| MICRONOX® | Yes | Yes | Yes |
| NSF Non-Food Program | H1 Reg. #139548 H1 Reg. #141432 | H1 Reg. #139949 | H1 Reg. #139549 H1 Reg. #141433 |
| CFIA | Yes | Yes | Yes |

Part Numbers:

Formula 500 FGSS

5220 FG

575069 5 Gallon Pail

575070 55 Gallon Drum

5320 FG

575104 5 Gallon Pail

575105 55 Gallon Drum

5460 FG

575084 5 Gallon Pail

575026 55 Gallon Drum

**To place an order or receive additional information call:
Order Entry Department 800-408-7788 option 3,
Fax 507-645-9664, email: process-solutions@jbt.com**



NSF See Chart
Category Code H1

www.jbtfoodtech.com

Formula 5PAG FG

High Temperature Gear Oil
(OIL P, T in Preventative Maintenance Manual)



JBT FoodTech H1 Food-Grade 100% Synthetic High Temperature Gear Oil is a fully synthetic PAG (polyalkylene glycol) fluid that offers outstanding performance characteristics for extremely demanding applications. Due to its unique chemistry, it offers a surprisingly high viscosity index with outstanding lubricity to provide not only cost reducing energy savings but extra long gearbox life as well.

The formulation brings remarkable extreme-pressure, antiwear and corrosion protection, which make it an excellent lubricant for applications that are too severe for conventional mineral oil based products and those old school food-grade offerings. One can see lower operating

temperatures and reduced friction resulting in minimal gear wear. The fluid brings very high film strength and lubricity for bevel, spur, helical, spiral and planetary gears and is particularly suited for worm gear applications.

Formula 5PAG FG supports very low pour points making it ideal for freezing and cooling applications. Additionally, its lack of wax and paraffins give it the ability to handle wide temperature swings. This means easier starts at cold temps and consistent film and lubricant adhesion at high. Along with reduced wear and engaging fluid film supported by low volatility, Formula 5PAG FG can increase gearbox drain intervals 3 to 4 times on average based on used oil analysis.

Formula 5PAG FG

Features

- Extremely high viscosity index
- Offers greatly reduced friction characteristics
- Improved metal wetting and lubricity properties
- Wide temperature range capability

Benefits

- High VI translates into smoother cold temperature start-ups
- Reduced friction will translate into longer gearbox life and longer drain intervals
- Less wear on internals providing energy savings and lower operating temperatures
- Wide temperature ranges make this more adaptable to multiple applications providing the chance to consolidate fluids



| Typical Properties | 5PAG FG |
|------------------------------|---------------|
| Viscosity @ 40°C cSt | 224 |
| Viscosity @ 100°C cSt | 36.9 |
| Viscosity Index | 217 |
| Pour Point °F (°C) | -36°F (-38°C) |
| Flash Point °F (°C) | 550°F (288°C) |
| Rust Inhibition | |
| Method A Distilled Water | Pass |
| Method B Synthetic Sea Water | Pass |
| Four-Ball Wear mm | 0.38 |
| Timken OK Load lbs | 45 |
| MICRONOX® | Yes |
| NSF Non-Food Program | H1 Applied |
| CFIA | No |

Part Numbers:

Formula 5PAG FG

| | |
|----------------|---------------------------|
| 365583A | Gallon Plastic Bottles |
| 365583B | 5 Gallon Pail |
| 365583C | 16 Gallon Keg |

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NSF Reg. No. Applied For
Category Code H1

www.jbtfoodtech.com

Formula 600 Series

Refrigeration Compressor Fluids



JBT FoodTech Formula 600 Series Refrigeration Compressor Fluids are 100% fully synthetic lubricants formulated especially for use in the low temperature conditions found in the operation of Frigoscandia and Northfield Freezing Equipment. As the demands of today's modern food processors continues to strive to pull more efficiency out of each piece of equipment, the reality of needing high-quality, top-performing lubricants especially in the critical areas of compressor operation becomes more apparent. A few degrees colder in a freezer can have an exponentially positive effect on production volumes, just as the need to shut down a freezer due to compressor failure would have a negative effect.

Formula 600 Series fluids are designed to exceed demands and out-perform conventional refrigeration compressor oils particularly in low temperature applications.

Formula 646 is a food grade oil for compressors and vacuum pumps requiring a product that could have incidental contact with food or beverage. It is made from shear-stable USDA H1 synthetic base oils designed to provide long life through reduced component wear, corrosion protection, water resistance and lubricant breakdown resistance. The high viscosity index and low pour point, low volatility and prolonged thermal stability allow use at a wide temperature range. Additionally, the minimized carbon depositing, low frictional characteristics and anti-foaming agents provide reduced energy consumption and lower operating temperatures. Formula 646 is designed to reach beyond 8,000 hours as long as discharge temperatures remain below 200°F (90°C). Monitoring at 500 hour intervals is recommended using JBT FoodTech oil analysis kits (part number 356231A).

Formula 600 Series

Formula 668 is a highly refined 100% synthetic Ammonia Compressor oil designed to replace conventional refrigeration compressor oils in the excessively demanding, super low temperature applications of JBT FoodTech Freezers. Our freezers are stretching down to temperatures unheard of only a few short years ago and the right fluid must be able to flow freely without sacrificing lubricity which can cause premature failures. Formula 668 is a suitable replacement for mineral or even other synthetic compressor oils. It can extend equipment life and drain intervals with the added benefit of reducing energy costs.

Features

- antiwear and anti-foam protection
- Rust and oxidation inhibited
- Recommended for use in rotary screw, centrifugal, vane & reciprocating compressors
- Excellent demulsification characteristics
- Very good compatibility to most compressor components

| Typical Properties | 646 | 668 |
|---------------------------------|----------|----------|
| Viscosity @ 100°C, cSt | 7.6 | 9.7 |
| Viscosity @ 40°C, cSt | 46.9 | 67.5 |
| ISO Viscosity Grade | 46 | 68 |
| Viscosity Index | 128 | 124 |
| SAE Viscosity Grade | 10 | 20 |
| Specific Gravity | 0.8378 | 0.8373 |
| Pour Point,°F | -44 | -54 |
| Pour Point,°C | -42 | -48 |
| Flash Point,°F | 464 | 518 |
| Flash Point,°C | 240 | 270 |
| Fire Point,°F | 504 | 576 |
| Fire Point,°C | 262 | 302 |
| Copper Strip Corrosion | 1a | n/a |
| Rust Test A Distilled Water | pass | n/a |
| Rust Test B Synthetic Sea Water | pass | n/a |
| Four-Ball Wear, mm | 0.45 | n/a |
| MICRONOX® | Yes | No |
| NSF Non-Food Program | Meets H1 | Meets H2 |
| CFIA | Yes | No |

Formula 646 is compatible with petroleum oils, most synthetic oils (not silicon or polyglycol fluids) as well as most seals, paints and gaskets found in most compressors.

Formula 668 also has excellent demulsifying properties and will keep water separated for easy draining while eliminating oil carry over to the cold side of the system.

Benefits

- Reduces energy draw
- Excellent oxidative stability
- Readily separates from water
- Reduced oil consumption and volatility
- Will not congeal to refrigerator coils
- Provides extended drain intervals



Part Numbers:

Formula 600 Series

| | |
|----------------|-----------------------------|
| 646 | |
| 356283A | 5 Gallon Round Plastic Pail |
| 356283B | 16 Gallon Steel Keg |
| 356283C | 55 Gallon Steel Drum |
| 668 | |
| 356173A | 55 Gallon Steel Drum |

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Order Entry Department 800-408-7788 option 3,
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www.jbtfoodtech.com

Formula 600VP and 600VP FG

Vacuum Pump Oil



JBT FoodTech Formula 600VP FG is an Incidental Contact H1 Food-Grade, semi-synthetic lubricant designed for use in numerous compressor and vacuum pump applications. This is an advanced chemistry formulation which has the best features identified and enhanced to provide ultimate protection for water demulsibility, fluid volatility, friction reduction, antiwear, fluid dispersion and deposit formulation.

Formulation 600VP FG is a unique and patented chemistry that offers superior performance over other formulations made from conventional synthetic base stocks like polyalphaolefins or esters. It brings increased protection for carbonization and depositing. Additionally, our chemistry helps eliminate varnishing and enhance hydrolytic stability and water dispersion. It also significantly reduces wear dramatically over conventional lubricants which enhances component life and reduces downtime.

Additionally, we have designed this product to separate from water and air which can cause emulsions that force poor performance and sludging. Water can easily drain helping eliminate rust and corrosion.

JBT FoodTech Formula 600VP is an H2, non-synthetic version that has been formulated for the most severe of applications that operate at elevated temperatures such as industrial rotary vacuum pumps and booster blowers. Characteristics like our food-grade version help reduce oil oxidation and thickening. This product can actually clean up drastically carbonized pumps by adhering to a shortened drain interval until the unit is cleaned up. Then 1000 hour runs can easily be the norm.

Formula 600VP and 600VP FG

Features

- Superior antiwear protection
- Helps eliminate foam, varnish, sludging and corroding acids
- Offers enhanced hydrolytic stability and easily separates from water
- Excellent rust and oxidation performance

Benefits

- Increases pump or compressor life
- Reduces downtime needed to deal with sludge or varnishing
- Provides increased drain intervals
- Offers longer life and reduced component failure



| Typical Properties | 600VP | 600VP FG |
|----------------------|-----------------|---------------|
| Viscosity @ 40°C | 110 | 102.55 |
| Viscosity @ 100°C | 11.9 | 12.41 |
| ISO Grade | 100 | 100 |
| Viscosity Index | 98 | 114 |
| Flash Point °F (°C) | 465°F (240.6°C) | 514°F (268°C) |
| Pour Point °F (°C) | -10°F (-23.3°C) | -4°F (-20°C) |
| Specific gravity | 0.8881 | 0.8731 |
| Four-Ball Wear, mm | --- | 0.48 |
| RPVOT, minutes | --- | 1750 |
| MICRONOX® | --- | Yes |
| NSF Non-Food Program | H2 | H1 Applied |
| CFIA | No | No |

Part Numbers:

Formula 600VP Series

600VP

- 365584A** 5 Gallon Pail
- 365584B** 16 Gallon Keg
- 365584C** 55 Gallon Drum

600VP FG

- 365584AFG** 5 Gallon Pail
- 365584BFG** 16 Gallon Keg
- 365584CFG** 55 Gallon Drum

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NSF Reg. Applied for

www.jbtfoodtech.com

Formula 700 Series (760, 762, 764)

Premium food grade oil designed for use in hydraulic applications



JBT FoodTech Formula 760 is a premium quality food grade oil designed for use in the hydraulic applications of JBT FoodTech equipment. As with all hydraulic fluids, there are many aspects of the oil that accomplish numerous tasks within a system, such as energy transfer, lubrication, a sealant medium and a heat transfer liquid. How well and efficiently these fluids perform is what makes a good fluid good.

We have formulated our Formula 760 with the finest additive package allowable within food grade lubricants to provide effective anti-wear and rust inhibition as well as ensure deposit-free operation with minimal sludge build up. We have added polymeric viscosity improvers to assist performance in operations that require low ambient temperatures and yet still have sufficient body to maintain it's characteristics during higher temperature cycles during C-I-P, sanitizing and drying operations.

Formula 760 will extend the life and drain intervals of our freezing equipment because of the limiting of rust, oxidation and wear on the inner components of the hydraulic system. Formula 760 allows for easy tap-off of the water in a system due to the high level of demulsification built into the formula. It eliminates the negative effects that can be caused when emulsions form as an oil and water mix rather than separate. Lesser quality hydraulic fluids can cause rust and corrosion as well as wear and fade which will all rob the system of it's maximum efficiency.

We have added formula 762 and 764 which now gives us a range of viscosities from ISO 32 to ISO 68. This provides food grade fluids for both stationary and mobile hydraulic systems as well as high and low pressure gear, vane and piston applications.

Formula 700 Series (760, 762, 764)

Features

- Excellent rust and oxidation protection
- Hydrolytical stability
- Superior protection for anti-wear and performance under high pressures
- Low pour point and high viscosity index for freezer applications
- Helps eliminate foam, sludge and varnish formation
- Meets H1 requirements

Benefits

- Will extend the life of components, limiting downtime
- Will work to separate water, eliminate foaming, resist rust and corrosion
- H1 status means it can be used with confidence in food or beverage processing
- Formulation also meets the requirements for numerous component manufacturers
- Formulas 760, 762, 764 are food grade hydraulic fluids that perform as well as industrial fluids



Part Number:

Formula 700 Series

| | |
|-------------------------------|-----------------------|
| 760 356313 | 5 Gallon Plastic Pail |
| 762 575078-5 | 5 Gallon Pail |
| 575078 | 55 Gallon Drum |
| 764 575081-5 | 5 Gallon Pail |
| 575081 | 55 Gallon Drum |

| Typical Properties | 760 | 762 | 764 |
|---------------------------------|---------|--------------------------|--------------------------|
| Viscosity @ 100°C, cSt | 5.4 | 6.8 | 8.7 |
| Viscosity @ 40°C, cSt | 31.7 | 46.3 | 67.8 |
| ISO Viscosity Grade | 32 | 46 | 68 |
| Viscosity Index | 100 | 102 | 101 |
| SAE Viscosity Grade | 10 | 20 | 20 |
| Specific Gravity | 0.8639 | 0.8650 | 0.8691 |
| Pour Point, °F | -40 | -19 | -8 |
| Pour Point, °C | -40 | -28 | -22 |
| Flash Point, °F | 392 | 410 | 429 |
| Flash Point, °C | 200 | 210 | 221 |
| Fire Point, °F | 414 | 429 | 469 |
| Fire Point, °C | 212 | 221 | 243 |
| Copper Strip Corrosion | 1a | 1a | 1a |
| Rust Test A Distilled Water | Pass | Pass | Pass |
| Rust Test B Synthetic Sea Water | Pass | Pass | Pass |
| Four-Ball Wear | 0.45 mm | 0.40 mm | 0.40 mm |
| MICRONOX® | Yes | Yes | Yes |
| NSF Non-Food Program | H1 | # 139944 or 141435/H1 | # 139945 or 141436/H1 |
| CFIA | Yes | Yes | Yes |

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NSF See 762-764
Category Code H1

www.jbtfoodtech.com

Formula 8008

Aerosol



JBT FoodTech STA-SLICK Food-Grade All Purpose Silicone Spray is an H1, incidental contact, fast drying, friction reduction marvel for use in 1000's of applications throughout any Food, Beverage or Pharmaceutical processing facility. STA-SLICK is ideal for applications where friction must be reduced and for parts that need to move more easily and freely. Formula 8008 performs best between unlike materials like cardboard on a stainless surface or paper or plastic packaging materials on a chute or collection table.

Silicone sprays are used throughout plants, both in processing and non-processing areas. JBT Formula STA-SLICK is formulated to be the solution plant-wide.

It is designed to offer the highest treatment of Silicone Fluid to an application, which is aerosolized into microscopic particles designed to spread easily over the surface needing coverage. The Food Grade solvent that performs that task also provides extremely fast drying for the product, so production is not delayed while the STA-SLICK dries, it is ready almost immediately.

Another area where STA-SLICK will prove very helpful is where there is the use of cutting blades, especially where incidental food contact may occur. STA-SLICK will help eliminate the build-up of adhesives or other contaminants that can reduce the performance of sharp blades.

Formula 8008

Features

- Dries extremely fast
- Leaves a long lasting silicone film
- Remains dry so that it will not attract particulates
- Reduces friction thus promoting sliding and ease of movement

Benefits

- No need to wait for 8008 to dry before starting operations
- Long lasting means less use, less stoppage time for the application of the spray
- Can be used where powders or fines would adhere to a moist lubricant
- Reduced friction can reduce stress and strain on workers by making jobs easier and smoother



| Typical Properties | 8008 |
|-----------------------|--------------------------|
| SILICONE FLUID | |
| Viscosity @ 40°C cSt | 266.0 |
| Viscosity @ 100°C cSt | 108.4 |
| Viscosity Index | 433 |
| Pour Point °F (°C) | -85°F (-65°C) |
| Flash Point °F (°C) | 689°F (365°C) |
| Specific Gravity | 0.9765 |
| PROPELLANT | Propane, Butane |
| Flash Point °F (°C) | -94°F (-70°C) |
| Spray Pattern | Fine Mist |
| Appearance | Nearly Invisible |
| Color | Totally clear |
| MICRONOX® | Yes |
| NSF Non-Food Program | H1 Registration # 140727 |
| CFIA | Yes |

Part Numbers:

Formula 8008

575056 10 Ounce Net
Weight Aerosol

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NSF See Chart
Category Code H1

www.jbtfoodtech.com

Formula 8009

Aerosol



JBT FoodTech Food-Grade Penetrating Oil aerosol spray is an extremely high performing penetrating and lubricating oil product. It has been formulated using only premium quality ingredients that have been approved and tested for use in the highly regulated Food, Beverage and Pharmaceutical processing arena.

Designed to soak in and penetrate the smallest cracks and crevices so that it's active "rust busting" additives can go to work and loosen galled, seized or frozen parts or fasteners.

If you have been searching for a safe and effective alternative to the little blue and yellow can, that you know should not be on the processing floor, this is it. Formula 8009 meets or exceeds all of the requirements for NSF H1 registration. An additional benefit to being H1 compliant is the lack of obnoxious odors or staining colors making it an ideal product for the front of the house or in hospitality areas like Hospitals, Hotels, Convention and Exposition centers, anywhere lots of people can be present and captive.

Formula 8009

Features

- Totally safe for incidental contact applications
- No noxious odor
- Soaks in and penetrates rapidly
- Is designed to leave behind a long lasting lubricating film

Benefits

- Can be used with confidence on processing floor with GMP (Good Manufacturing Processes)
- Will not cause smells or odors so it can be used when and where people are present
- Acts fast so production is not held up saving down time
- Once it has loosened pieces or parts they remain lubricated for the next action



| Typical Properties | 8009 |
|------------------------------|---|
| OIL | |
| Viscosity @ 40°C cSt | 4.5-5.5 |
| Flash Point °F (°C) | 138°F (58.9°C) |
| Pour Point °F (°C) | -40°F (-40°C) |
| Rust Inhibition | |
| Method A, Distilled Water | Pass |
| Method B, Synthetic Seawater | Pass |
| Color | Clear Straw |
| Odor | Slight nutty |
| Consistency | very light oil |
| PROPELLANT | |
| | Propane, Butane |
| Flashpoint °F (°C) | -94°F (-70°F) |
| MICRONOX® | |
| | Yes |
| NSF Non-Food Program | H1 Registration #141438 and or #137749 |
| CFIA | |
| | Yes |

Part Numbers:

Formula 8009

575052 11 Ounce Net
Weight Aerosol

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Fax 507-645-9664, email: process-solutions@jbt.com**



NSF See Chart
Category Code H1

www.jbtfoodtech.com

Formula 8014

Aerosol



JBT FoodTech H1 Food-Grade Assembly Spray Lubricant is an incidental contact approved assembly and machinery oil in a convenient aerosol can, designed to cling and perform. It is heavily fortified with antiwear and extreme pressure additives as well as a synthetic polymer technology to provide unsurpassed corrosion and wear protection in the food and beverage processing arena.

Formula 8014 is a mineral oil based lubricant, but with the exception of extreme temperatures can often outperform synthetic Food Grade offerings. If you have a moving mechanism that needs to be lubricated, this can

be your solution. It has been formulated to be heavy enough to adhere and stay where you put it, yet light and fluid enough to soak in allowing it to penetrate and permeate the innermost points that need the lubrication. Chains, conveyors, enclosed spur and bevel gears, sliding mechanisms, hinges, rollers, cams, cables and oil washed sleeve, ball, plain and roller bearings all are applications where this oil performs extremely well. If your desire is to keep something moving longer between lubrication and extend the life of the assembly or mechanism, then Formula 8014 needs to be a part of your tool crib.

Formula 8014

Features

- Provides excellent water displacement
- Offers superior corrosion protection
- Presents exceptional lubricating film
- Outstanding antiwear protection
- Has MICRONOX® which provides a preservative for the oil

Benefits

- Helps eliminate washout which often results in dry start-ups
- Makes an excellent oil to act as a coating between seasons
- Lasts longer between applications meaning less usage
- Less wear means longer equipment life, less downtime
- Preservative protection means less need to worry about lubricant harboring or spreading microbes



| Typical Properties | 8014 |
|------------------------|-------------------------|
| OIL | |
| ISO Grade | 150 |
| Viscosity @ 40° C cSt | 146 |
| Viscosity @ 100° C cSt | 14.6 |
| Viscosity Index | 91 min. |
| Color | Light Amber |
| Odor | Slightly nutty |
| Flashpoint °F (°C) | 464°F (240°C) |
| Pour Point °F (°C) | 0°F (17.8°C) |
| PROPELLANT | Propane, Butane |
| Flashpoint °F (°C) | -92°F (-71°C) |
| MICRONOX® | Yes |
| NSF Non-Food Program | H1 Registration #139673 |
| CFIA | Yes |

Part Numbers:

Formula 8014

575107 11 Ounce Net
Weight Aerosol

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NSF See Chart
Category Code H1

www.jbtfoodtech.com

Formula 8413

Aerosol



JBT FoodTech Food-Grade Open Gear Spray Grease is a plant-wide, incidental contact-safe, H1 aerosol spray grease that offers a high performance solution to 1000's of issues throughout Food and Beverage Processing facilities. It has a combination of our Formula 301 and 302 greases which are formulated with the latest technology in grease soap thickeners, to provide superior water washout and chemical resistance, which can be huge problems in these processing plants. Additionally it has been built with outstanding corrosion control, antiwear and extreme pressure performance.

If your plant has aerosol cans of white or red Lithium grease or some other dark, high-solids grease hidden on a low shelf or tucked in a tool box, replace them with Formula 8413 and be confident that you will have a safe H1 product that will outperform all those others.

For open gears or rolling casters on carts and racks, sliding mechanisms that need an easy-to-apply grease lubricant or slow moving chains that are subjected to water wash-down and or chemicals.

Formula 8413

Features

- Provides exceptional mechanical stability
- Offers remarkable rust and corrosion control
- Very good compatibility with other greases
- Contains the added benefits of MICRONOX® to preserve and protect the grease

Benefits

- Will provide greatly extended life for lubricated parts reducing replacement costs
- Will help reduce safety risks of casters that don't roll or mechanisms that stop sliding
- By reducing the concern of following an old grease at switchover, time and labor are saved
- There is less chance of transferring microbes as this grease will not harbor them



| Typical Properties | 8413 |
|--|---|
| GREASE (relates to Formula 301 and 302 grease) | |
| NLGI Grade | 1-2 |
| Dropping Point °F (°C) | 600°F (316°C) |
| Base Fluid Viscosity @ 40°C cSt | 95 |
| Base Fluid Viscosity Index | 92 |
| Base Fluid Pour Point °F (°C) | 10°F (-12°C) |
| Base Fluid Flash Point °F (°C) | 482°F (250°C) |
| Timken OK Load lbs | 59.5 |
| Four-Ball Weld kgf | 500 |
| PROPELLANT | Propane. Butane |
| Flashpoint | -93°F (-71°C) |
| Color | Off White/ Tan |
| Texture | Thick wet grease |
| MICRONOX® | Yes |
| NSF Non-Food Program | H1 Registration #137750 and or #141429 |
| CFIA | No |

Part Numbers:

Formula 8413

575053 11 Ounce Net
Weight Aerosol

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NSF See Chart
Category Code H1

www.jbtfoodtech.com

Formula 8414

Aerosol



JBT FoodTech Food-Grade Chain Lube is a hybrid formula that takes the superior wear and extreme pressure characteristics of our Food-Grade Assembly Lube and the water and chemical resistance of our Food-Grade Open Gear spray and combines them to make a product that protects, lubricates and is very resistant to running or dripping. Designed for mechanisms, like rails and conveyors, that are above food or beverage lines that still need the extreme antiwear and corrosion protection, but need to do so without the chance of dripping down on the product below.

The combination formula sprays out as a thick, clinging foam. However, as soon as it attaches to the application, it starts to penetrate and soak deep into the inner workings of the chains or mechanism, bringing with it the fortified package for antiwear, water resistance, rust and corrosion control. This performance capability makes this an ideal product for high moisture or steam riddled applications.

Formula 8414

Features

- Thick clinging film that adheres to chains or conveyors
- Non-drip formulation for overhead applications
- Excellent water and moisture resistance
- Great antiwear and extreme pressure properties

Benefits

- Can be used where a visual adherence is desired
- Little concern is needed for the product underneath assuming 'good manufacturing practices'
- Will resist wash-out or run out from heavy moisture, reducing failures
- Longer life for chains that may have been overlooked or run dry due to overhead location



| Typical Properties | 8414 |
|----------------------|---------------------------------------|
| PROPELLANT | Propane, Butane |
| Flashpoint | -94°F (-74°C) |
| MIXTURE | |
| Flashpoint | 352°F (177.8°C) |
| Spray Pattern | Thin Foamy Stream |
| Texture | Thick Clinging Film |
| Color | Light Straw |
| Odor | Slightly Nutty |
| MICRONOX® | Yes |
| NSF Non-Food Program | H1 Registration #137751 or #141430 |
| CFIA | No |

Part Numbers:

Formula 8414

575054 11 Ounce Net
Weight Aerosol

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NSF See Chart
Category Code H1

www.jbtfoodtech.com

Formula 8474 FG

Air Line and Air operated Tool Lubricant



JBT FoodTech H1 Food-Grade Air Line and Air Tool Oil is designed for incidental food contact in any compressed air system. It has been formulated with high levels of rust inhibitors and emulsifiers. The rust inhibitors along with the formula's high level of anti-wear additives help protect the internal mechanisms and motors of air tools, while the emulsifiers pick up and exhaust the tramp moisture.

Formula 8474 FG is designed specifically for the Food and Beverage Processing arena. But in reality, air systems and air driven tools typically exhaust their spent air right into the working environment (YES, see where that air is headed after it leaves a cutter or any air tool, it's right there by the food). This affects the air an operator is breathing as well as any exposed food or beverage surface, so having a food-grade safe oil in all air line systems makes great sense!

Formula 8474 FG has hygroscopic chemistry incorporated to pick up and exhaust the moisture that can be trapped or residual in the lines. This not only helps to prevent rust of the tool or system, but by its nature, that moisture, when left alone, can be the perfect breeding grounds for all kinds of trouble. As an added benefit Formula 8474 FG is also compounded with revolutionary MICRONOX[®] anti-microbial technology. It is a given that long lines in air systems, often sitting idle for periods of time, with as we've said entrapped moisture, and exposed to heat, (whether caused by the friction of the operation inherent in the system or from environmental conditions in the plant), pose an often overlooked health threat. Our formulation will help reduce that threat and extend the life of your system and tools.

Formula 8474 FG

Features

- Very high level of antiwear protection
- Outstanding rust and corrosion control performance
- Performs water emulsification throughout the air systems in the plant
- Offers superb anti-microbial protection

Benefits

- Great antiwear means longer life for systems and tools
- Eliminating rust and corrosion means less downtime due to plugging and contamination
- No need to have multiple air line lubes, helps in consolidation
- Food plants have HACCP programs and this Product with MICRONOX® protection really helps support the entire program

| Typical Properties | 8474 FG |
|-------------------------------|---|
| Viscosity @ 40°C | 23.25 |
| Viscosity @ 100°C | 4.40 |
| Viscosity Index | 92.5 |
| SAE Viscosity Grade | 10 |
| Specific Gravity | 0.8625 |
| Pour Point °F (°C) | -8°F (-22°C) |
| Flash Point °F (°C) | 374°F (190°C) |
| Rust Test | |
| Method A, Distilled Water | Pass |
| Method B, Synthetic Sea Water | Pass |
| Color | Water White |
| Odor | Negligible |
| MICRONOX® | Yes |
| NSF Non-Food Program | H1 Registration #139948 and or #141437 |
| CFIA | Yes |



Part Numbers:

Formula 8474 FG

| | |
|------------------|------------------------|
| 575103 | 16 fluid ounce bottles |
| 575103-1 | Gallon plastic bottle |
| 575103-5 | 5 Gallon pail |
| 575103-55 | 55 Gallon drum |

To place an order or receive additional information call:
Order Entry Department 800-408-7788 option 3,
Fax 507-645-9664, email: process-solutions@jbt.com



NSF See Chart
Category Code H1

www.jbtfoodtech.com

PRoTHERM™ Select

High performance heat transfer fluid



JBT FoodTech PRoTHERM Select is a food grade heat transfer fluid designed for high performance in liquid phase heat transfer systems at sustained operating temperatures up to 600° F. It is highly refined, severely hydrogenated, paraffinic white oil that is odorless and capable of being fully reprocessed.

Benefits

- Delivers unparalleled thermal stability and heat transfer efficiency to your system
- Competitively priced
- Mixable with other thermal fluids such as Paratherm NF
- Can be used in new systems or to top off the fluid in an existing system
- Field proven

PRoTHERM SELECT Properties

| Key Operating Temperatures | | |
|--|--------------------------|--------|
| Maximum bulk fluid operating temperature | 600° F | 316° C |
| Maximum film temperature | 650° F | 343° C |
| Pumpability (2000 cP) | -4° F | -20° C |
| Physical Properties | | |
| Composition | Hydrogenated white oil | |
| Odor | Faint, oily | |
| Appearance | Water white clear liquid | |
| Flash point | 380° F | 193° C |
| Fire point | 420° F | 216° C |
| Auto ignition temperature | 680° F | 360° C |
| Initial Boiling point | 574° F | 301° C |
| Final Boiling point | 874° F | 468° C |

We are with you through the full life cycle of the product and provide periodic fluid analysis. This analysis enhances your ability to plan for fluid reprocessing ensuring that the system runs at best efficiency at all times.

To place an order or receive additional information, contact a customer service representative at 800 408 7788 option 2 or email: naparts@jbtc.com