



**DELTA  
Series**  
Cost-Effective  
Solutions for  
Diesel-Driven  
Hydrostatic  
Machinery

 **Guardian Couplings®**  
Altra Industrial Motion







## ABOUT GUARDIAN COUPLINGS

For more than 70 years, Guardian has been designing and manufacturing world-class couplings and other power transmission components. Utilizing advanced manufacturing technologies and processes, Guardian provides highly-reliable coupling and component solutions to meet the most challenging industrial application requirements.

Guardian provides a wide range of standard and custom products including flywheel couplings, hydraulic pump mounts, bearing supported stub shafts, flexible shaft-to-shaft couplings, motion control couplings as well as compression pipe couplings.

Durable Guardian products are utilized in key industries including mobile hydraulics, farm & ag, tree care, concrete, food & beverage, material handling, automation, power generation, and oil & gas on applications such as skid steers, aerial lifts, harvesters, wood chippers, concrete pumps, dewatering pumps, baggage handlers, conveyors, robotics, compressors, and generator sets.



## ALTRA COUPLINGS

Altra Couplings offers the largest selection of industrial couplings available from a single source...worldwide. For over 150 years, TB Wood's, Ameridrives, Bibby Turboflex, Lamiflex, Guardian and Huco, the industry-leading brands of Altra Couplings have been providing innovative coupling solutions to meet the requirements for a broad variety of drivetrain applications spanning many industries including energy, metals, mining, oil & gas, and food processing. Highly-engineered Altra coupling products represent the latest in coupling technology, featuring superior design and exceptional quality to ensure long-lasting performance in all types of environments.



## APPLICATIONS

Guardian Industries has introduced the DELTA Series flexible coupling line for use on diesel-driven hydrostatic machinery and construction equipment. The cost effective DELTA single-piece design incorporates a splined and hardened steel hub that is pre-assembled into the glass-fiber reinforced flange. The DELTA coupling attaches to the engine flywheel, taking advantage of elastomeric grommets that provide a steady dampening effect to normal engine vibrations. Although the coupling incorporates rubber bushings for dampening, it is relatively stiff which allows equipment with low inertia to operate below the critical speed range.

This coupling is suited for accurately aligned drives that minimize misalignments. The DELTA Series is able to accommodate small angular, parallel, and axial misalignments that are typical to piloted flange connections. The DELTA series couplings can achieve torque capacities of up to 6,130 IN-LBS nominally. These high performance couplings are designed for demanding applications on the latest tier engines.

## FEATURES & ADVANTAGES

- **Accepts Straight & Splined Shafts**

The DELTA series steel hub can be manufactured with a straight bore and keyway with set screw retention for the straight pump shaft demands. A spline shaft connection is also acceptable and incorporates a “plugin” design.

- **Single Piece Design**

The DELTA’s single piece design eliminates extra fasteners and reduces installation costs for blind splined-shaft set-ups. (Straight shaft connections consist of a two piece design).

- **Environment**

This lightweight coupling is oil resistant and will provide a long service life in temperatures of -40 to 212 degrees Fahrenheit.

- **Reduced Spline Fretting**

Elastomeric grommets absorb shock loading and reduce transmitted vibration – two major factors that contribute to pump spline fretting.

- **Minimum Maintenance Required**

The splined and hardened alloy steel hub is greased at assembly with lithium based grease that enables extended service intervals in service conditions up to 212 degrees Fahrenheit.

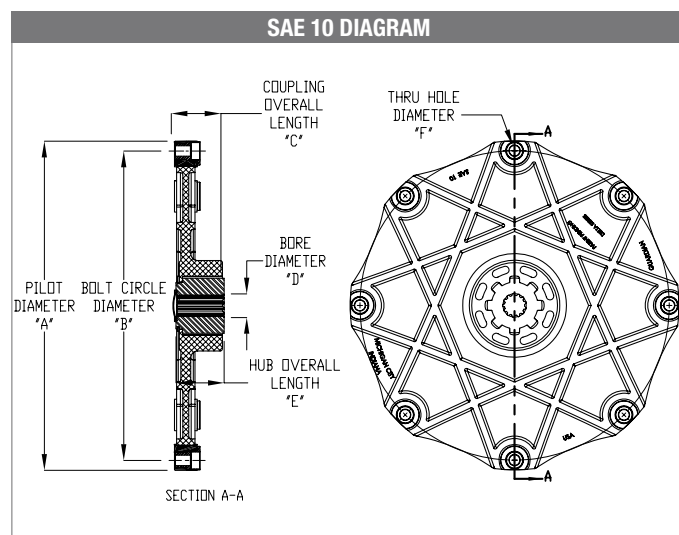
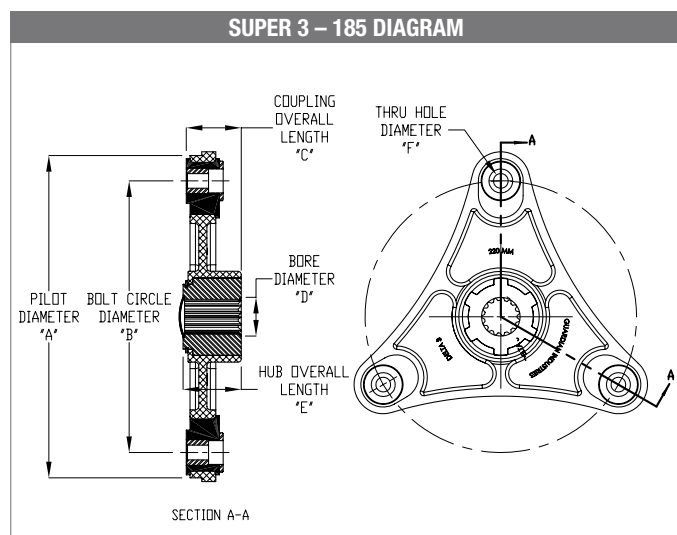
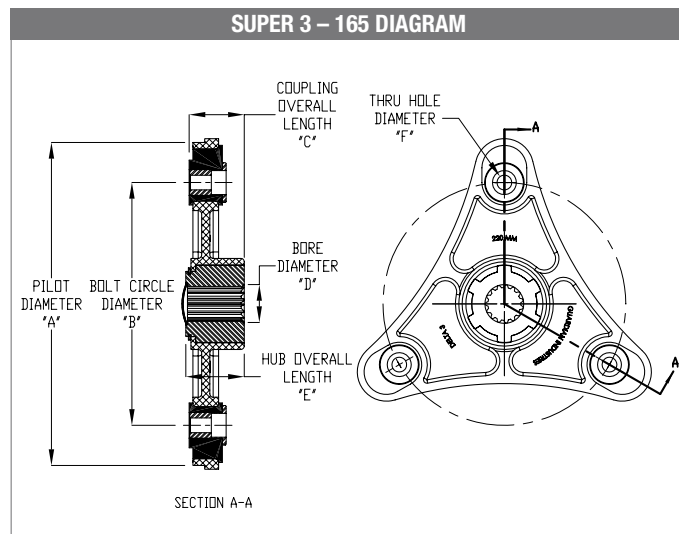
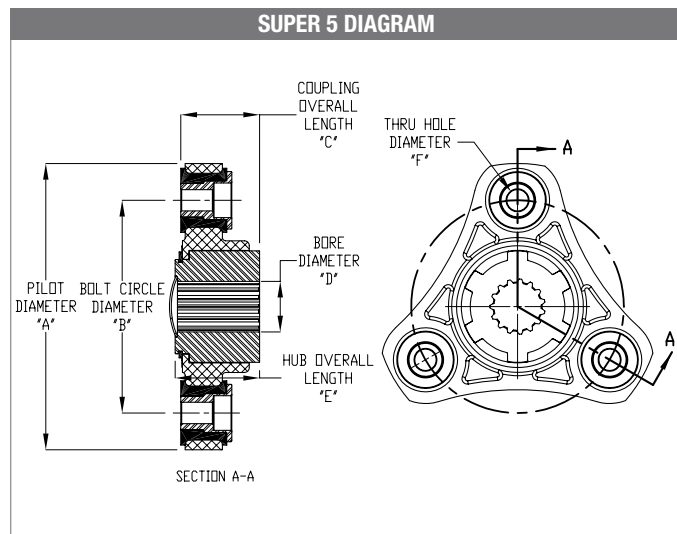
- **Economical Solution**

The DELTA series by Guardian is an affordable way to provide higher torque ratings from our traditional designs, while benefiting from its dampening capabilities.



Limited configurations are currently available. Guardian is currently expanding the DELTA Series to service our customer’s requests. Please give us a call today to discuss your application.

## DIMENSIONS



Series	A	B	C	D		E	F	# of Hub Teeth
	Outer Diameter	Bolt Circle Diameter	Overall Length	Min	Max	Hub Overall Length	# of Bolt Holes/ Diameter	
SUPER 5	5.315" (135 MM)	3.937" (100 MM)	1.457"	.50"	1.250"	1.562"	3X / .394" (10MM)	6
SUPER 3 - 165	8.661" (220 MM)	6.496" (165 MM)	1.475"	.50"	1.250"	1.562"	3X / .472" (12MM)	6
SUPER 3 - 185	8.661" (220 MM)	7.283" (185 MM)	1.475"	.50"	1.250"	1.562"	3X / .394" (10MM)	6
SAE 10 - SD	12.375" (314.3MM)	11.625" (295 MM)	1.868"	.754"	1.250"	1.813"	8X / .394" (10MM)	8
SAE 10 - HD	12.375" (314.3 MM)	11.625" (295 MM)	1.970"	.877"	1.750"	2.125"	8X / .394" (10MM)	10

## TECHNICAL DATA

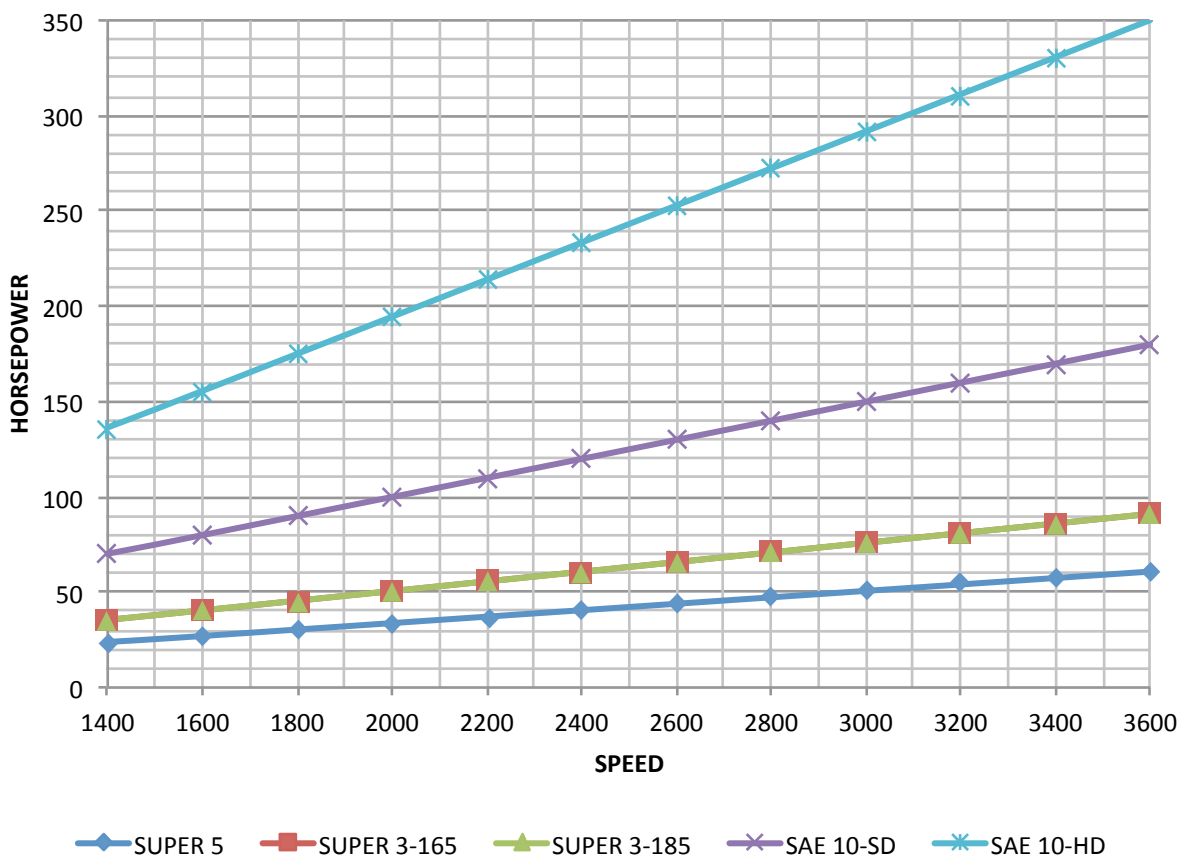
Series	Nominal Torque**	Maximum Torque**	HP @ 1800 RPM	Misalignment		Temperature Range
				Parallel	Axial	
	IN-LBS	IN-LBS		INCHES	INCHES	DEGREES
SUPER 5	1,065	2,663	30	.008	+/- .030	-40° F TO 212° F
SUPER 3 - 165	1,595	3,987	45	.008	+/- .030	
SUPER 3 - 185	1,595	3,987	45	.008	+/- .030	
SAE 10 - SD	3,150	7,875	90	.008	+/- .030	
SAE 10 - HD	6,130	15,325	175	.008	+/- .030	

\* The DELTA Series is able to accommodate small angular, parallel, and axial misalignments that are typical to piloted flange connections only. The Delta Series is not recommended for applications that have excessive angular misalignment.

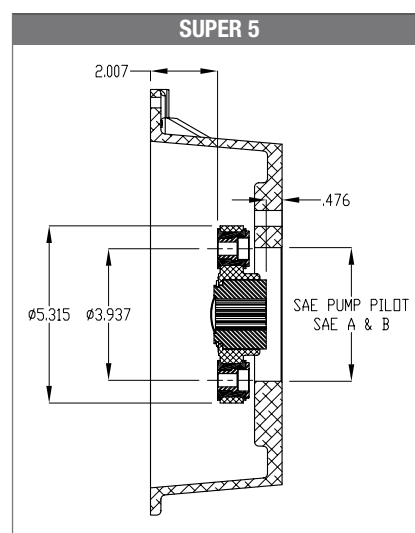
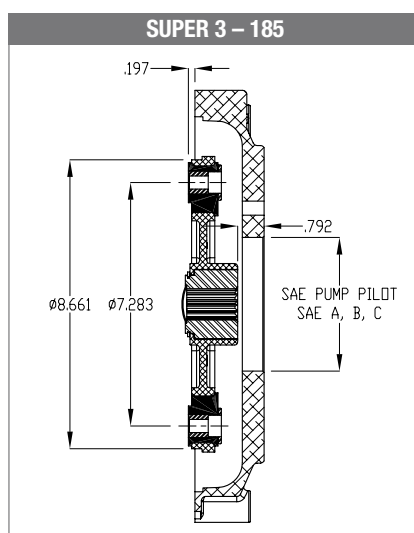
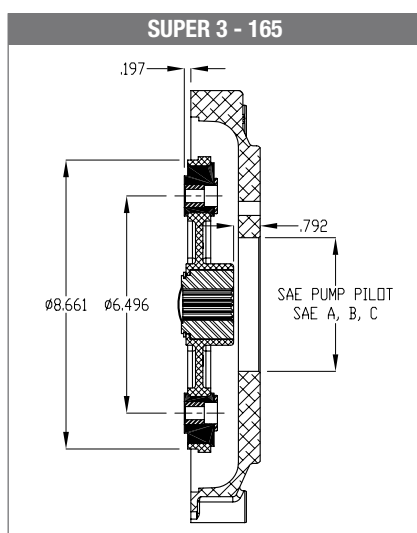
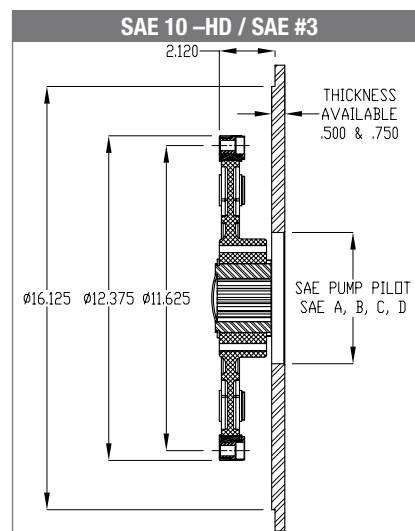
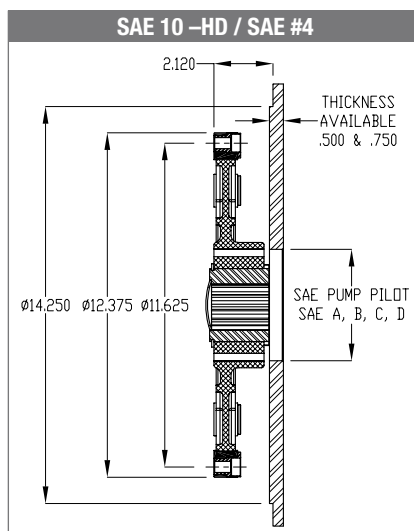
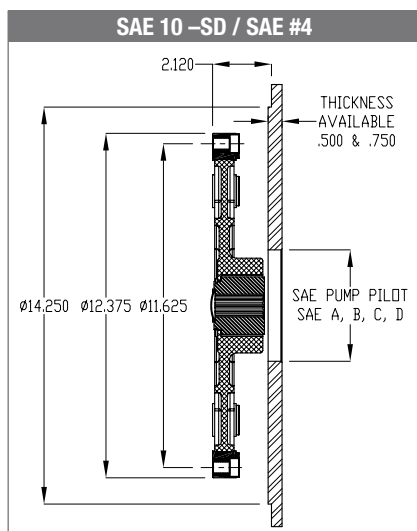
\*\*The torque values listed are for ambient temperatures. Torque capacities may be reduced at lower and higher temperatures within the -40° F to 212° F temperature range listed. Please review temperature service factors.

## TEMPERATURE SERVICE FACTORS

-40° F	0° F	73° F	125° F	160° F	212° F
1.50	1.30	1.00	1.30	1.50	1.95



## ASSEMBLY CONFIGURATIONS



Note: Super Kubota Super 3 & Super 5 configurations are available in both aluminum and cast iron pump mount designs.



**SUPER 5**



**SUPER 3**



**SAE 10**



# Altra Couplings

## OFFERS THE LARGEST SELECTION OF INDUSTRIAL COUPLINGS AVAILABLE FROM A SINGLE SOURCE...WORLDWIDE

The industry-leading brands of Altra Couplings, **TB Wood's**, **Huco**, **Bibby Turboflex**, **Ameridrives**, **Guardian Couplings** and **Lamiflex Couplings**, have been providing innovative coupling solutions to meet the requirements for a broad variety of applications spanning many industries. Highly engineered Altra coupling products represent the latest in coupling technology, featuring superior design and exceptional quality to ensure long-lasting performance in all types of environments.

**WWW.ALTRACOUPLINGS.COM**



### ELASTOMERIC COUPLINGS

TB Wood's  
Bibby Turboflex  
Guardian Couplings



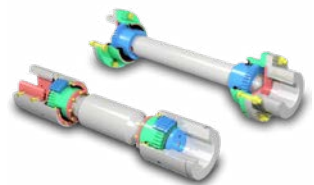
### GRID & GEAR COUPLINGS

Bibby Turboflex  
Ameridrives



### COUPLING GUARDS & BEARING ISOLATORS

Lamiflex Couplings



### GEAR SPINDLES

Ameridrives



### UNIVERSAL JOINTS

Ameridrives



### TORQUE LIMITERS

Bibby Turboflex



### PRECISION COUPLINGS

Huco  
Guardian Couplings



### FLYWHEEL COUPLINGS, ENGINE HOUSINGS & PUMP MOUNTS

Guardian Couplings  
TB Wood's



### HIGH PERFORMANCE DISC & DIAPHRAGM COUPLINGS

Ameridrives  
Bibby Turboflex  
Lamiflex Couplings



### GENERAL PURPOSE DISC COUPLINGS

TB Wood's  
Ameridrives  
Bibby Turboflex  
Lamiflex Couplings

## Guardian Couplings Facilities

### North America

#### USA

300 Indiana Highway 212  
Michigan City, IN 46360  
219-874-5248

*Engineered Flywheel Couplings, Engine  
Housings and Pump Mounts, Flexible  
Shaft Couplings*

### Europe

#### United Kingdom

Merchant Drive, Hertford  
Hertfordshire SG13 7BL - England  
+44(0)1992 501900

*Engineered Flywheel Couplings, Engine  
Housings and Pump Mounts, Flexible  
Shaft Couplings*

## The Brands of Altra Motion

### Couplings

**Ameridrives**  
[www.ameridrives.com](http://www.ameridrives.com)

**Bibby Turboflex**  
[www.bibbyturboflex.com](http://www.bibbyturboflex.com)

**Guardian Couplings**  
[www.guardiancouplings.com](http://www.guardiancouplings.com)

**Huco**  
[www.huco.com](http://www.huco.com)

**Lamiflex Couplings**  
[www.lamiflexcouplings.com](http://www.lamiflexcouplings.com)

**Stromag**  
[www.stromag.com](http://www.stromag.com)

**TB Wood's**  
[www.tbwoods.com](http://www.tbwoods.com)

### Linear Systems

**Thomson**  
[www.thomsonlinear.com](http://www.thomsonlinear.com)

**Warner Linear**  
[www.warnerlinear.com](http://www.warnerlinear.com)

### Geared Cam Limit Switches

**Stromag**  
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### Engineered Bearing Assemblies

**Kilian**  
[www.kilianbearings.com](http://www.kilianbearings.com)

### Electric Clutches & Brakes

**Matrix**  
[www.matrix-international.com](http://www.matrix-international.com)

**Stromag**  
[www.stromag.com](http://www.stromag.com)

**Warner Electric**  
[www.warnerelectric.com](http://www.warnerelectric.com)

**Deltran**  
[www.thomsonlinear.com](http://www.thomsonlinear.com)

### Belted Drives

**TB Wood's**  
[www.tbwoods.com](http://www.tbwoods.com)

### Heavy Duty Clutches & Brakes

**Twiflex**  
[www.twiflex.com](http://www.twiflex.com)

**Stromag**  
[www.stromag.com](http://www.stromag.com)

**Svendborg Brakes**  
[www.svendborg-brakes.com](http://www.svendborg-brakes.com)

**Wichita Clutch**  
[www.wichitaclutch.com](http://www.wichitaclutch.com)

### Gearing & Specialty Components

**Bauer Gear Motor**  
[www.bauergears.com](http://www.bauergears.com)

**Boston Gear**  
[www.bostongear.com](http://www.bostongear.com)

**Delevan**  
[www.delevan.com](http://www.delevan.com)

**Delroyd Worm Gear**  
[www.delroyd.com](http://www.delroyd.com)

**Nuttall Gear**  
[www.nuttallgear.com](http://www.nuttallgear.com)

### Engine Braking Systems

**Jacobs Vehicle Systems**  
[www.jacobsvehiclesystems.com](http://www.jacobsvehiclesystems.com)

### Precision Motors, Drives & Controls

**Kollmorgen**  
[www.kollmorgen.com](http://www.kollmorgen.com)

### Miniature Motors

**Portescap**  
[www.portescap.com](http://www.portescap.com)

### Overrunning Clutches

**Formsprag Clutch**  
[www.formsprag.com](http://www.formsprag.com)

**Marland Clutch**  
[www.marland.com](http://www.marland.com)

**Stieber**  
[www.stieberclutch.com](http://www.stieberclutch.com)

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