



# A REVOLUTION IN TORQUE TRANSMISSION

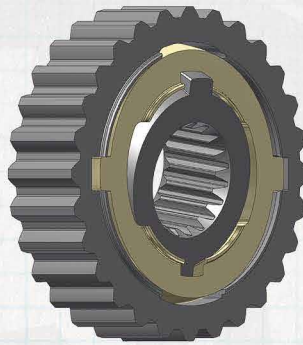
**Punk® Couplings Limited was established in September 2013 to patent and commercialise our novel torque transmission technologies.**

## Technology Overview

Combining the benefits of a gear coupling with the functionality of a universal/ Cardan joint, Punk® couplings use a radical reinterpretation of the well-established Cardan joint mechanism to transmit power between misaligned shafts. This novel approach – which we call our geometric philosophy – achieves Cardan motion in a unique way, creating an extremely compact and robust torque coupling.

Our torque couplings are composed of three nested rings with spherical mating surfaces: each coupling is effectively a spherical bearing inside a spherical bearing. Using diametrically opposed cylindrical keys or axles, each mating pair of rings has a single free axis of relative rotation, one at 90° to the other. Thus, the mid ring acts like the cruciform component in a Cardan joint, rocking back and forth to cater for angular misalignment.

**Punk® Prime**



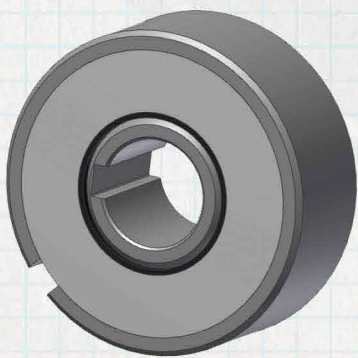
**Punk® Gim-Ball**



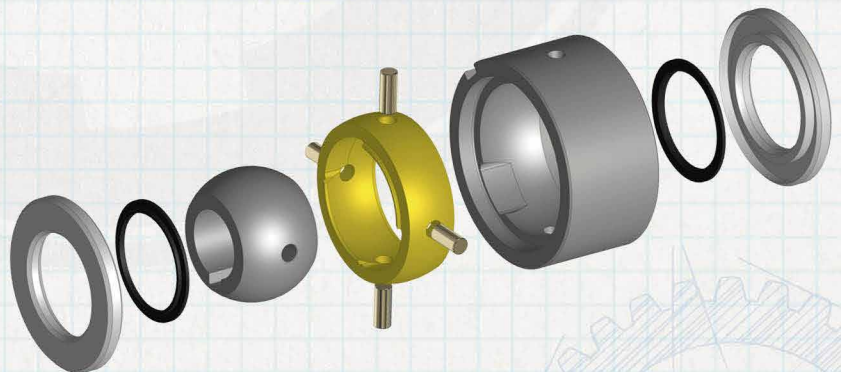
**Punk® Prime**



**Punk® Prime 5° Sealed**



**Punk® Gim-Ball**



## Features and Benefits

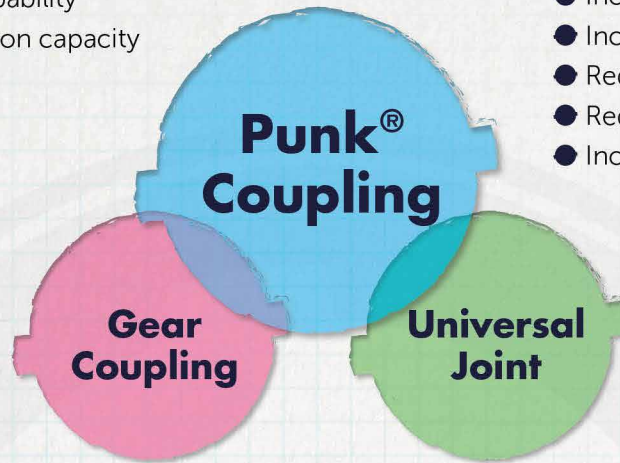
Punk® couplings occupy a unique space in the market as a cross over technology between gear couplings and universal joints. Punk® couplings offer:

### Compared to Gear Couplings

- Increased misalignment capability
- Increased torque transmission capacity
- Zero/low backlash
- Axial load capacity

### Compared to Universal Joints

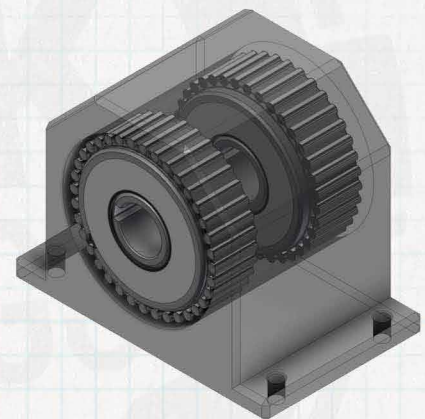
- Increased speed capability
- Increased torque transmission capacity
- Reduced parts count
- Reduced space envelope
- Increased torque density



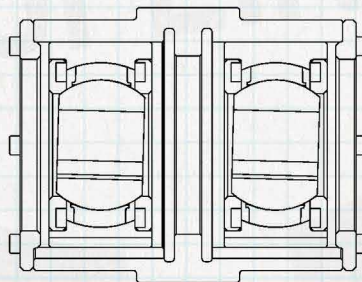
### Unique Advantages

- Modular units can be axially rigid, damped or flexible
  - Easily adapted in-field to suit a wide variety of applications
- Maintenance
  - Low: potential for sealed-for-life coupling units
  - Easy: in-situ replacement of couplings
  - Ancillaries such as housings can be retained
- Capability for combining coupling with a support bearing
- High radial load capability
- Extremely robust

### Punk® Bearing Supported Coupling



### Punk® Flex-Flex 10° Sealed Coupling Axial Floating



Insert flexible or rigid spacers for axial rigid or damped

### Intellectual Property

Our initial two patents were published in June 2015. Released from prior publication constraints, Punk Couplings Limited is now interested to hear from potential licensees and development partners in targeted sectors. A further 6 patents, which complement our core IP, have been filed with the UK IPO. We would be happy to share details of these technologies under NDA.

**More information on our technology can be found on the company website**  
**[punk-couplings.co.uk](http://punk-couplings.co.uk)**