

## 1 Low Speed Couplings Motor/Dyno/Gearbox

### Rating - Thrust Compensated

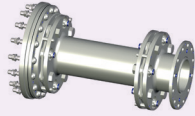
Up to 50MW

### Rating - No Thrust

Up to 110MW

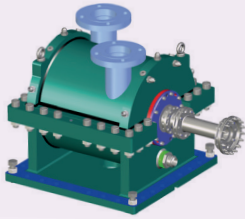
### Product Capability

- Discpack design
- Safeset protection as option
- Backdrive configuration as option.



### Options - Flywheel

- Torquemeters custom-designed high-speed flywheel.
- Max speed 27,000rpm / Max inertia 1.35 kg.m<sup>2</sup>
- Interchangeable rotors allow variation of the flywheel inertia.
- High fatigue-resistance design.
- Specialist journal & thrust bearing configuration.
- Integrated speed measurement.
- Oil lubricated & air-sealed.



# Anatomy of an Aerospace Test Driveline

## The art of the possible

## 3 Thrust Balance

### Rating - Thrust Compensated

Up to 220kN (at 16,000rpm)

### Rating - No Thrust

10kN (max) thrust capability of Torquemeter bearings

### Product Capability

- Post-torque measurement compensation
- High speed tilt pad design
- Fast response
- Oil or air-balance options.

## 5 Test Article Coupling

### Rating - Thrust Compensated

+/- 6mm axial compensation (max)  
0.2° angular compensation (max)

### Rating - No Thrust

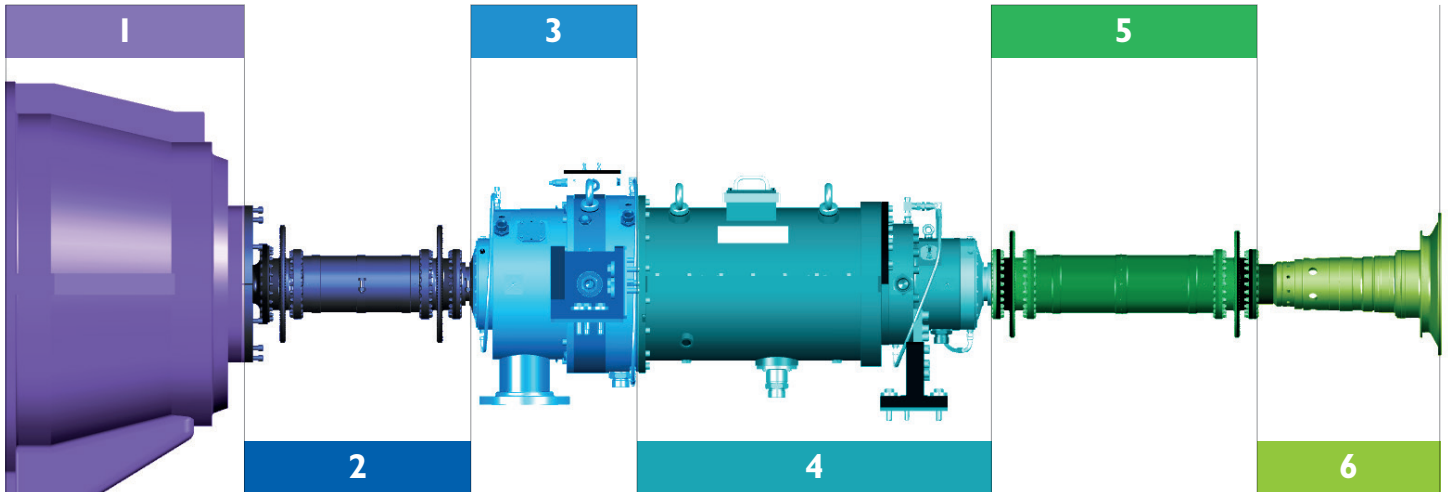
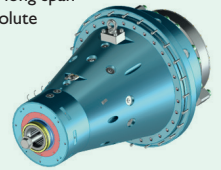
+/- 6mm axial compensation (max)  
0.2° angular compensation (max)

### Product Capability

- Bottled/Quill/Tordisc or hybrid design dependent on test article application/ interface
- Splined interface
- Low mass overhang
- Tied coupling for torque transmission
- High axial & radial compensation
- Pre-stretch/compression capability
- Titanium, Aluminium & Steel material options for optimised performance.

### Options - Spindle

- Additional bearing support to reduce mass overhang & bridge long span through collector box/volute
- High speed & high temperature performance
- Avoid critical speed/rotordynamic limitations.



## 2 High Speed Coupling

### Rating - Thrust Compensated

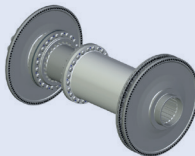
Up to 25,000rpm - Thrust compensated

### Rating - No Thrust

Up to 50,000rpm

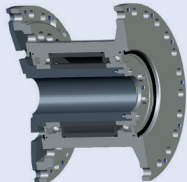
### Product Capability

- Tordisc or Discpack design
- Low mass overhang
- Reverse moment
- High speed.



### Options - Shear Neck

- Overtorque protection
- Protects core driveline components from damage
- Safe containment /anti-flail in the event of a failure.



## 4 Torquemeter

### Rating - Thrust Compensated

Max torque rating 31,000Nm  
(at 16,000rpm & 220kN thrust)

### Rating - No Thrust

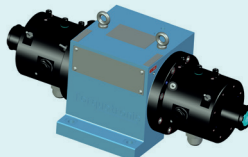
Max torque rating 95,500Nm  
(at 10,800rpm)

### Product Capability

- Phaseshift torque measurement
- High speed capability
- High torque capability
- High accuracy - up to 0.05% of full scale
- Temperature compensated
- Interchangeable torsion shafts
- No rotating electronics.

### Options - Free Wheel

- Pedestal mounted freewheel spring clutch assembly
- Nominal Speed Rating: 26,830 rpm
- Maximum Over Speed Rating: 28,783 rpm
- Clutch disengagement speed: Between 26,690 and 26,975 rpm
- Nominal Torque Rating: 881 Nm.



## 6 Test Article

### Rating - Thrust Compensated

Up to 50MW  
Up to 25,000rpm

### Rating - No Thrust

Up to 110MW  
Up to 50,000rpm

### Product Capability

- Test Applications:
- Turbofan
  - Turboprop
  - Turboshaft
  - Compressor
  - Turbine
  - Engine.

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**70 YEARS**  
of designing, delivering  
and driving performance

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