

## Hydrostatic Spherical Couplings



### Introduction

Shore Western Manufacturing Hydrostatic Double Spherical Couplings are designed to allow misalignment between the actuation device and the unit under test. Typically they are used in vibration testing to attach a guided table to an electro-dynamic or electro-hydraulic shaker system. They may also be used for structural test systems at lower frequencies. Both angular and offset lateral misalignment may be compensated for up to the coupling's allowable angular displacement.

The spherical seats form hydrostatic bearings and are pressurized to stretch a center stud and produce the desired oil film clearance. The thin film hydrostatic bearings are extremely stiff, backlash free and exhibit almost no friction. Since there is no direct mechanical

contact (or seal) between the sphere and seat, the units have virtually an infinite life.

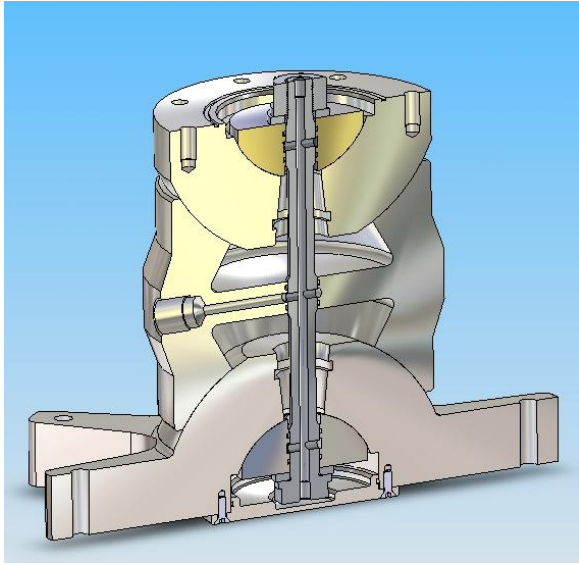
The coupling is precision machined to allow the operating clearances to be controlled in order to minimize the required hydraulic flow, and maximize the stiffness of the bearing assembly for operation up to 2,000 Hz.

Shore Western can supply the entire hydraulic pressurization system as a turn-key subsystem with guaranteed performance, including low pressure interlocks and special bearing filtration.

The Shore Western Manufacturing Hydraulic Power Supply may be sized to supply both the couplings as well as the slip table bearings and hydraulic actuators for an integrated hydraulic solution.

### Features:

- Wide range of capacities
- Flexible mounting configurations to suit customer fixtures
- Zero backlash
- Light weight design
- System pressures 210 bar and 280 bar
- Precise alignment using accurate piloted connections
- 4140 Alloy steel construction
- Operation to 2,000 Hz.
- Fully Reversing Tension and Compression
- $\pm 6^\circ$  swivel and tilt
- Fully Fatigue Rated
- Integrated sintered bronze filters
- Ease of mounting
- Used on single and multi-axis test rigs



**Typical Coupling Cross Section**



**Portable Hydraulic Power Supply**

**Specifications**

<b>Model Force Capacity</b>	<b>Dynamic Force Capacity KIP/KN</b>	<b>Angular Motion</b>	<b>Length</b>	<b>Diameter</b>	<b>Flow at 210 Bar lpm/gpm</b>	<b>Weight</b>
881	10/50	$\pm 6^{\circ}$	250 mm	180 mm	1.9/1.5	18 kg
882	20/100	$\pm 6^{\circ}$	325 mm	225 mm	3.79/1.0	35 kg
883	40/200	$\pm 6^{\circ}$	500 mm	375 mm	7.6/2.0	95 Kg

*Note: all specifications subject to change without notice, please confirm at time of order.*

**Represented By:**



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