

## PRODUCT INFORMATION:



### DESCRIPTION

The Knuckle Joint allows sections of a logging or perforating string to be decentralized in order to ensure that all sensors have the optimal position in the well bore. This may be particularly important when, for example, a CCL needs to be decentralized to get better collars, but the fluid density and full-bore flowmeter still require to be centralized. With perforating guns the addition of a knuckle joint may allow guns to pass through higher bend radii in the well bore.

All Owen knuckle joints are designed such that when two are coupled together, they will fully decentralize different parts of the tool string in different tubing sizes allowing them to run parallel to each other.

Designed around a precision, high-strength ball joint mechanism, the Knuckle Joint provides superior strength and articulation while the implementation of an easily field-replaceable through connection results in extremely simple maintenance.

These are available with multiple head configurations and can be configured with client specific head types if required.

### PRODUCT FEATURES:

- > High strength ball and socket design.
- > 2 3/4" tools suitable for perforating operations.
- > Designed for simple maintenance in the field.

### PRODUCT APPLICATIONS:

- > Can be used to decentralize tools for better sensor response.
- > Sections of the toolstring can be centralized to reduce drag to access highly deviated wells.
- > Centralize part of the toolstring to make it easier to run in hole.

### SPECIFICATIONS - COMMON:

PRESSURE (MAX)	20,000psi	Temperature (Max)	177C / 350F
ARTICULATION	+/- 12.5°	Min Articulation Life	50,000 Cycles
THRU – CURRENT	7A		

### SPECIFICATIONS:

	KJO-C	KJO-F	KJO-E	KJO-G
PART NUMBER	113-99003	113-99008	113-99007	113-99006
LENGTH	7.0" / 178 mm	10.2" / 259 mm	7.00" / 178 mm	7.0" / 178 mm
DIAMETER	1 11/16" 43 mm	2 1/8" / 54 mm	1 11/16" 43 mm	2 1/8" / 54 mm
WEIGHT IN AIR	4.2 lbs / 1.9 Kg	6.3 lbs / 2.9 Kg	4.2 lbs / 1.9 Kg	5.1 lbs / 2.3 Kg
CONNECTIONS	GO A	GO A	BA-A3	BA-A3
FISHING STRENGTH	26,000 lbs / 11,793 Kgs	30,000 lbs / 13,600 Kgs	26,000 lbs / 11,793 Kgs	30,000 lbs / 13,600 Kgs