

DJ10 |

DOUBLE ACTING HYDRA-MECHANICAL JAR



DJ10 DOUBLE ACTING
HYDRA-MECHANICAL JAR



OVERVIEW

PRODUCT TECHNICAL SHEET
DJ10 Double Acting Hydra-Mechanical Jar

The DJ10 is assembled with the same dependable mechanical lock (latch) mechanism as the Cougar DS DJ6, but with the capacity to jar down hydraulically.

All Cougar DS jars have internal locking mechanisms that eliminate the need for “safety collars” found on many other jars. Even better, the internal lock ensures the tool will not misfire.

QUALITY AND PERFORMANCE

Cougar DS has been designing and manufacturing downhole drilling tools since 1969 and nobody does it better. An ISO 9001 accredited company since 1992, our in-house manufacturing, quality control and strict material specification ensure complete control for high performance drilling tools.

Cougar DS is the premier supplier of downhole drilling equipment that sets the standard by which all others are judged.

FEATURES

- The mechanical latch ensures the jar will not fire prematurely
- The mechanical latch eliminates component wear while drilling
- The mechanical latch eliminates the need for a safety collar
- Hydraulic delay up and down allows the operator to vary jarring loads in both directions
- With adjustable lock loads, the jar can be run in compression or in tension
- The jar is designed with a locking mechanism in place, but it can be produced without a lock
- Standard operating temperatures up to 250°F (121°C). Special seals are available for operating temperatures up to 450°F (232°C)



OPERATION

PRODUCT TECHNICAL SHEET
DJ10 Double Acting Hydra-Mechanical Jar

OPERATING INSTRUCTIONS

The operation of the DJ10 is similar to the DJ6 Hydraulic Mechanical Jar but the double acting DJ10 Hydraulic Mechanical Jar requires a slight modification of the jarring procedure.

JARRING UP

In order to fire the jar upwards, the operator must determine the force or pull required to unlatch the jar to begin metering.

Formula:

Force required = lock setting + buoyed drill string weight above the jar + hole drag – pump open force.

(Pump open force = pump open area x pressure drop across the bit)

Once this pull force is exceeded and applied to the jar, it will unlatch and begin the metering sequence. During metering, the jar can be pulled with more/less force to increase/decrease the jarring impact. The force or pull used will determine the delay time of the jar until impact.

JARRING DOWN

To fire the jar down, the drill string is lowered applying weight to the latch that exceeds the preset mechanical latch setting. At this point, the latch will release allowing the jar to meter downwards until the jar fires, creating a downward blow.

Formula:

Force required = lock setting + pump open force + hole drag.

Once the latch is released, the applied load should not exceed the maximum allowable for pre-firing. If the jar is required to fire again, lift and reset the jar to repeat the process. To return to drilling, the operator must lift up until off bottom, and then continue drilling.

OPERATING NOTES

Drill collars will assist the performance of the jars enhancing their performance and increasing their impact. The harder the jar is pulled, the greater the impact. The lighter the jar is pulled, the lesser the impact.

It is recommended to run the jars in the lower section of the drill collars if possible. Cougar DS drilling jars should not be run at the neutral point.

Note: Maximum pre-fire load is provided in the specification table of this brochure.



ENGLISH UNITS

OD (in.)	ID (in.)	Length (ft.)	Weight (lb.)	Latch Setting Range (lb.)	Maximum Pull for Firing (lb.)	Maximum Pull after Firing (lb.)	Pump Open Area (in. ²)	Maximum Torque (ft.-lb.)	Total Stroke (in.)	Free Stroke Up (in.)	Free Stroke Down (in.)
4 ¾	2 ¼	19.0	800	0 - 45,000*	84,000	380,000	11.0	17,000	19	6	6
6 ½	2 ½	18.5	1,600	0 - 110,000*	156,000	685,000	16.8	40,000	18	6	6
8	2 ⅜	19.5	2,350	0 - 130,000*	291,000	1,150,000	28.2	68,000	18	6	6
9 ½	2 ⅜	20.0	3,300	0 - 145,000	361,000	1,500,000	33.2	141,000	18	6	6

* Down lock loads will typically be 60-70% of the up value.

SI UNITS

OD (mm)	ID (mm)	Length (m)	Weight (kg)	Latch Setting Range (daN)	Maximum Pull for Firing (daN)	Maximum Pull after Firing (daN)	Pump Open Area (cm ²)	Maximum Torque (Nm)	Total Stroke (mm)	Free Stroke Up (mm)	Free Stroke Down (mm)
121	57	5.8	363	0 - 20,000*	37,000	169,000	71.0	23,000	483	152	152
165	63	5.6	726	0 - 50,000*	71,000	304,000	108.4	54,000	457	152	152
203	71	5.9	1,066	0 - 60,000*	129,000	512,000	181.9	92,000	457	152	152
241	71	6.1	1,497	0 - 65,000*	160,600	667,200	214.2	191,000	457	152	152

* Down lock loads will typically be 60-70% of the up value.

TASMAN 

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CERTIFICATE
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