



Dailey® Hydraulic Drilling Jar with Latch

Weatherford's *Dailey* hydraulic drilling jar with latch is designed to provide immediate jarring in either direction to free stuck pipe or bits for improved jarring flexibility and effectiveness.

The jar can be teamed with Weatherford's *Dailey* HyPulse Jar Slinger® to increase the acceleration of the hammer mass for greater impacts.

Applications

- High-angle drillstrings
- Conventional oil and gas wells
- Deviated oil and gas wells

Features, Advantages and Benefits

- In its normal *locked* position, the jar delivers immediate upward or downward blows to free stuck pipe. This two-way flexibility enhances jarring performance.
- The jar comes complete with a mechanical lock mechanism to prevent accidental firing during normal operations and to eliminate the requirement for a safety clamp.
- The hydraulic metering system works independently from fluid viscosity to ensure consistent delay times over the full operating temperature range for optimal performance.



*Dailey® Hydraulic Drilling Jar with Latch**Specifications*

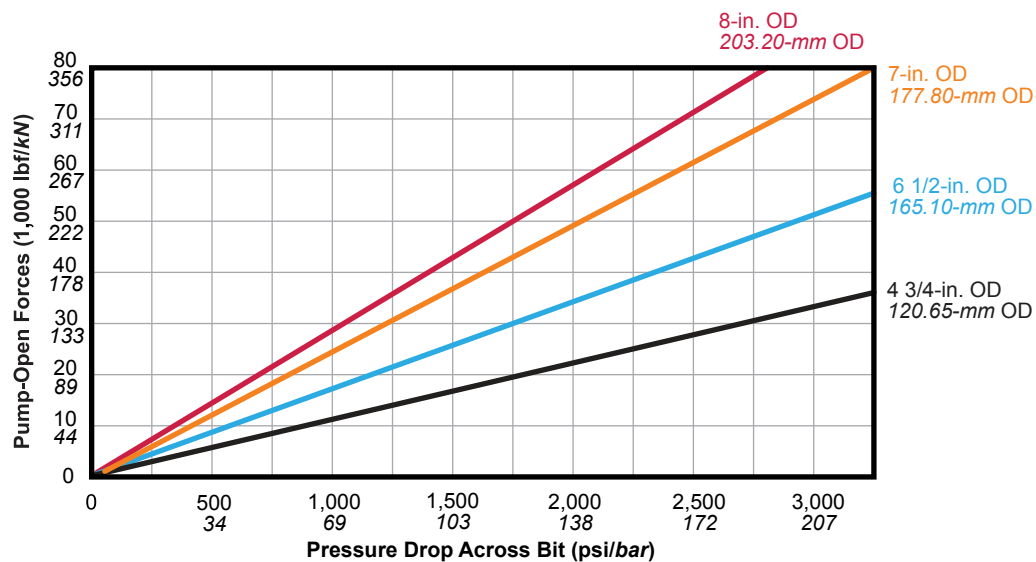
OD (in./mm)	4-3/4 120.65	6-1/2 165.10	7 177.80	8 203.20
ID (in./mm)	2.25 57.15	2.75 69.85		3.00 76.20
¹ Tensile yield (lbf/kN)	500,000 2.224	934,000 4.155	1,200,000 5.338	1,750,000 7.784
Maximum pre-jarring pull (lbf/kN)	85,000 378	175,000 778	220,000 979	300,000 1,334
Torsional yield (lbf-ft/kN·m)	20,000 27.1	56,200 76.2	71,000 96.3	105,000 142.4
Maximum temperature (°F/°C) (standard/high temperature)	400 204			
Overall jar stroke (in./mm)	15 381	17 432		19.5 495
Poa (in. ² /cm ²)	10.3 66.5	19.6 126.5	23.8 153.5	28.3 182.6
Tool length with upper connector (ft/m)	33.75 10.29	34.50 10.52		36 10.97
Weight with upper connector (lb/kg)	1,600 725.33	2,600 1179.34	3,500 1587.57	4,200 1905.09
Standard connections	NC 38	NC 50	5-1/2 FH	6-5/8 Reg
Gap on mandrel in <i>locked</i> position (in./mm)	8.75 222.25	9.63 244.47		10.88 276.22



Dailey® Hydraulic Drilling Jar with Latch

Specifications

Jar lock tool size settings (in./mm)	4-3/4 120.65	6-1/2 165.10	7 177.80	8 203.20
Up (lbf/kN)	25,000 to 35,000 111.21 to 155.69	60,000 to 80,000 266.89 to 355.86	60,000 to 80,000 266.89 to 355.86	80,000 -100,000 355.86 to 444.82
Down (lbf/kN)	12,000 to 20,000 53.38 to 88.96	25,000 to 35,000 111.21 to 155.69	25,000 to 35,000 111.21 to 155.69	30,000 to 45,000 133.44 to 200.17



Pump-open force is created by pressure drop across the bit. The pump pressure creates a reaction force in the tool that tries to force it open. Reduce the pump to idle before attempting to jar.



Dailey® Hydraulic Drilling Jar with Latch

Operation

Jarring Up

1. Apply overpull at the jar sufficient to overcome the lock setting. To calculate jar loadings, see the Pump-Open Force graph and the Specifications section.
2. Continue to apply loading as required. Hydraulic metering controls release.
3. Close the jar by applying a sufficient set-down load.
4. Re-engage the lock, and repeat as necessary.

Jarring Down

1. Apply a set-down load at the jar sufficient to overcome the lock setting. To calculate jar loadings, refer to the Pump-Open Force graph and the Specifications section in this document.
2. Continue to apply loading as required. Hydraulic metering then controls release.
3. Open the jar by applying a sufficient pick-up load.
4. Re-engage the lock, and repeat as necessary.

Maintenance

Take the following steps each trip out of the hole:

1. Wash the mud from the polished mandrel and from inside the bottom connection.
2. Check the polished mandrel carefully for any signs of corrosion, pitting, or flaking of the coating.

Example: Upward Jarring Jar

	(lbf)	(kN)
Total string weight	250,000	1,112
Weight below jar	- 40,000	- 178
Weight above jar	210,000	934
Required or maximum overpull	+ 92,000	+ 409
	302,000	1,343
Indicator reading to trip jar upward	322,000	1,432

Slack off from 200,000 to 190,000 lbf
(890 to 845 kN) to recock the jar.

Example: Downward Jarring Jar

	(lbf)	(kN)
Total string weight	250,000	1,112
Weight below jar	- 40,000	- 178
Weight above jar	210,000	934
Required or maximum overpull	- 37,000	- 165
	173,000	769
Indicator reading to trip jar upward	153,000	680

Slack off from 220,000 to 240,000 lbf
(979 to 1,068 kN) to recock the jar.