

HYMEC HDJ DRILLING JAR & ENERGIZER



HYMEC HDJ (DAH) DOUBLE ACTING HYDRAULIC JAR

The HDJ Drilling Jar & Drilling Energizers are a new generation of drilling tool designed and manufactured for the severe drilling conditions of today, such as severe directional and horizontal drilling conditions. Ensuring secure and durable operation and providing high impact as and when required, regardless if in vertical, high angle or the horizontal section of the well.

Jarring Up

1. Slack off on drill string weight above the Jar to engage in the 'cocked position'.
2. Pull on drill string until the Jar setting is reached to fire the Jar.
3. Slack off on drill string to slightly below the weight of the string above jar. Usually there will be a noticeable sign, such as a bobble of the weight indicator needle, when the jar re-cocks.

Jarring Down

1. Slack off on drill string weight above the Jar to engage in the 'cocked position'.
2. Slack off on drill string until Jar setting is reached to fire the Jar.
3. Pick up drill string until slightly above 'weight above jar' is reached. Free travel and a slight movement on the weight indicator will be noticed when the jar re-cocks.

Energizer Up & Down Operation

The energizer will automatically be applied when opening the jar so fully concentrate on the loads applied on the jar and the energizer will adjust as required.

The energizer will, when operated with the 'HDJ' Jar, increase acceleration of hammer weight between jar and energizer and thereby increase impacts. The impacts will also due to the two-stage design increase impacts in horizontal wells. This double action energizer will also minimise jarring shock loads on working string and topside equipment.

Jar Settings

Tool Size Nominal	4 1/8"	4 3/4"	6 1/4"	6 1/2"	8"	9 1/2"
Hydraulic Delay UP 35 000lbs	1-2 min					
Hydraulic Delay UP 50 000lbs		1-2 min				
Hydraulic Delay UP 100 000lbs			1-2 min	1-2 min	1-2 min	1-2 min
Delay at Max overpull UP	10-30 sec	10-40 sec	10-50 sec	10-50 sec	10-50 sec	10-50 sec
Hydraulic Delay DOWN 20 000lbs	1-2 min					
Hydraulic Delay DOWN 30 000lbs	2-3 min	2-3 min	2-3 min	2-3 min	2-3 min	2-3 min
Hydraulic Delay DOWN 50 000lb	1-2 min	1-2 min	1-2 min	1-2 min	1-2 min	1-2 min
Hydraulic Delay DOWN 100 000lbs			40-60 sec	40-60 sec	40-60 sec	40-60 sec

Please note that all above loads and time delays are approximate only.

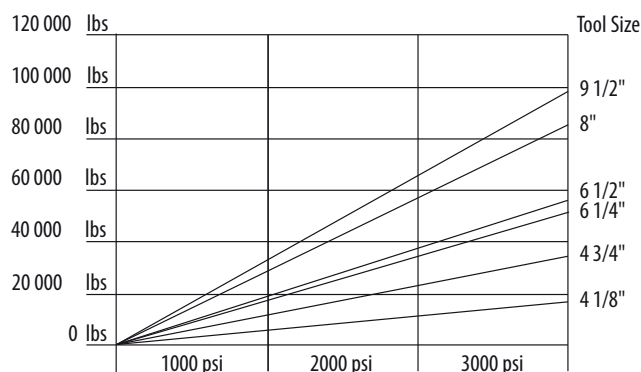
PUMP OPEN FORCE JAR AND ENERGIZER

Pump pressure will generate a force, which will try to open the tool and thereby increase ease of opening jar lock and increase impact. For calculations please refer to Pump Force table.

In horizontal wells the energizer will, due to the Pump Open Force and spring force, also assist in moving the BHA to maintain weight on bit.

Pump Open Force Chart

Force created by pressure drop across the bit



HDJ Placement notes:

The HDJ Jar can be placed in the bottom hole assembly either in tension or compression but it is recommended that the jar is placed as close to any possible stuck point in order to achieve the highest impact where it counts. Ensure that sufficient weight (hammer weight) is placed above the jar for high impact.

The energizer should be placed above the jar hammer weight and with sufficient weight above the energizer in order to ensure high down jar impact. Never place jar or energizer at the neutral point in string as it may cause excessive wear and/or damage to the tools. Never place tools at a transition point (i.e. between 8" (203mm) O.D. and 6 1/2" (165mm) O.D. collars).

Never place jar next to or below a stabiliser, roller reamer or similar tool.

Drill collars and/or pipe connection O.D. above the jar and immediate (1-2 joints) below the jar should never be larger than the O.D. of the jar.

Specifications

HDJ Jar & Energizer series	41	47	62	65	80	95
Tool size OD (new)	4.20"	4.89"	6.36"	6.64"	8.17"	9.69"
Bore ID	1.56"	2.25"	2.38"	2.56"	3.00"	3.25"
Overpull Max. (Pre-jarring at Jar) lbs	75,000	90,000	165,000	180,000	280,000	400,000
Tensile Load (Max) lbs	323,280	402,740	831,360	921,000	1,564,000	2,014,000
Yield Torque (new) ft/lbs	12,990	17,700	50,850	58,400	112,800	162,300
P.O.A. sq. in.	6.4	7.4	13.3	14.5	22.4	33.0
Overall stroke (inch)	18	20	20	20	20	20
Max temperature F/C (standard)	275/132	275/132	275/132	275/132	275/132	275/132
Max temperature F/C (high)	450/232	450/232	450/232	450/232	450/232	450/232
Max Drilling Hrs Up to 275 deg F (standard)	350	350	350	350	350	350
Max Drilling Hrs Up to 450 deg F (high)	200	200	200	200	200	200
Length approx. m/ft	5.2/17	6.7/22	6.7/22	6.7/22	6.7/22	6.7/22
Weight approx. kg/lbs	290/620	400/880	760/1670	820/1800	1350/2970	1900/4180

- Notes:**
1. HDJ Drilling Jars are supplied in the open position complete with Safety Clamp installed.
 2. HDJ Drilling Jars can be supplied with optional internal lock feature on request.
 3. Other sizes can be supplied on request.

Sales enquiries:

Hymec Limited

Downhole Product Services

☎ 44 (0)7955 254791 ☎ 44 (0)7388 344319 ✉ sales@hymecLtd.co.uk

