

## Double Acting Hydraulic Drilling Jar

The Wenzel Downhole Tools Double Acting Hydraulic Drilling Jar (HJDA) is a bi-directional drilling jar incorporating hydraulic delay without a latch mechanism. This jar will allow the operator to apply variable impact in both the up and down directions. The HJDA is intended for use in highly deviated or high friction wells, where conditions may prevent applying sufficient force to release a mechanical latch.

### Features and Benefits

- ▶ The HJDA is hydraulically controlled and jars in both directions, with impact force controlled by the operator.
- ▶ Impact force is controlled by a metering device that ensures consistent delay times over the full range of operating temperatures.
- ▶ The HJDA operates via a simple up and down motion and is unaffected by right- or left-hand torque.
- ▶ Standard seals are suitable for use up to 250°F (120°C). Optional high temperature seal kits are available for service to 400°F (200°C). External sealing surfaces are tungsten carbide-coated to enhance wear and corrosion resistance.

### Operation

#### Jarring Up

- With the jar in the neutral position, apply the desired overpull in excess of the free string weight, starting the hydraulic delay sequence. At the end of the hydraulic delay, the jar will release causing an upward impact force.
- If necessary, lower the drill string sufficiently to close the jar to the neutral position, ready to jar up again.

#### Jarring Down

- With the jar in the neutral position, lower the drill string to apply the desired down force, starting the hydraulic delay sequence. At the end of the hydraulic delay, the jar will release causing a downward impact force.
- If necessary, raise the drill string sufficiently to open the jar to the neutral position, ready to jar down again.



## Handling

- To prevent unintentional tripping during handling, the HJDA is fitted with a safety clamp to keep the jar in the fully extended position. The safety clamp must remain installed until the jar is ready to run into the hole.
- When preparing to run into the hole, connect the jar to the drill string and apply tension before removing the safety clamp.
- When coming out of the hole, install the safety clamp while the jar is still under tension and fully extended.

### Double Acting Hydraulic Drilling Jar Specifications

IMPERIAL							
Nominal OD (inch)	Length (feet)	Thru Bore (inch)	Tensile Yield (lbs)	Torsional Limit (ft lbs)	Max Pull During Delay (lbs)	Free Stroke Up / Down (inch)	Total Stroke (inch)
3.38	14.3	1.50	234 900	9 000	50 000	7.0	21.0
4.25	16.9	2.00	300 800	16 300	70 000	8.0	25.0
4.75	17.4	2.25	370 600	21 500	85 000	8.0	25.0
6.25	17.9	2.25	938 900	50 700	160 000	8.0	25.0
6.50	18.1	2.75	1 220 000	51 000	175 000	8.0	25.0
6.75	17.9	2.75	1 220 000	51 500	190 000	8.0	25.0
8.00	18.2	2.81	1 293 900	103 200	240 000	8.0	25.0
9.50	19.0	3.00	2 106 900	189 300	300 000	8.0	25.0

METRIC							
Nominal OD (mm)	Length (m)	Thru Bore (mm)	Tensile Yield (daN)	Torsional Limit (N·m)	Max Pull During Delay (daN)	Free Stroke Up / Down (mm)	Total Stroke (mm)
86	4.3	38	104 500	12 200	22 200	180	530
108	5.2	51	133 800	22 100	31 100	200	640
121	5.3	57	164 800	29 100	37 800	200	640
159	5.4	57	417 600	68 700	71 200	200	640
165	5.5	70	542 700	69 100	77 800	200	640
171	5.5	70	542 700	69 800	84 500	200	640
203	5.5	71	575 500	139 900	106 800	200	640
241	5.8	76	937 100	256 700	133 400	200	640

Other sizes available upon request.

Torsional Limit is based on a coefficient of friction of 0.12.

Specifications are based on as new condition and are subject to change without notice.