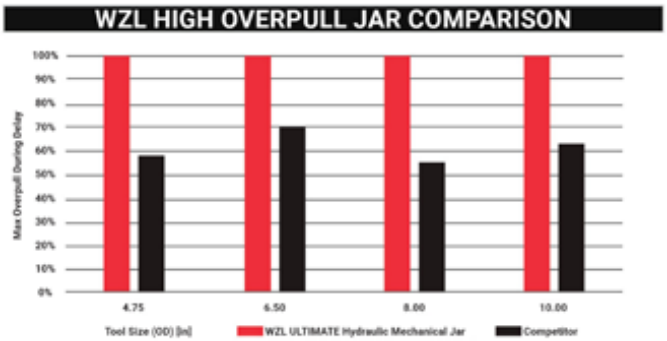
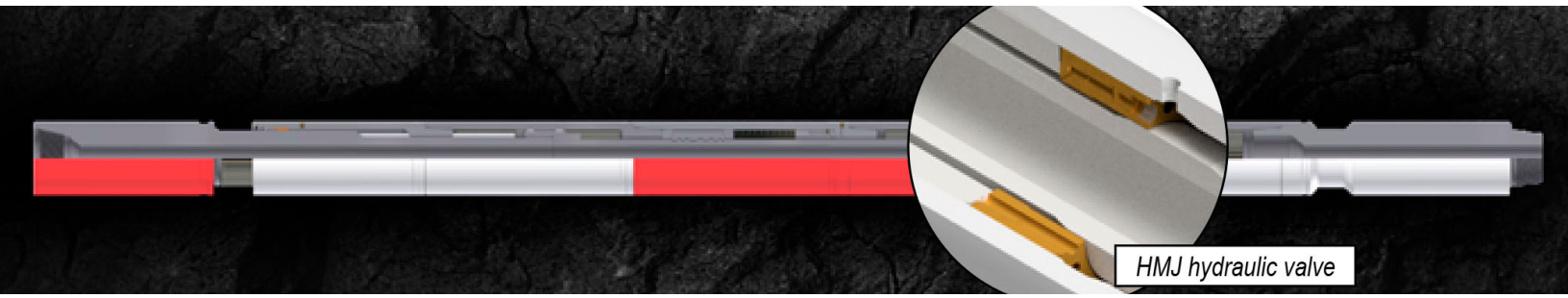
WZL HMJ

Hydraulic Mechanical Jar

HYDRAULIC UP. MECHANICAL DOWN. LATCHED IN NEUTRAL.

The WZL HMJ pairs hydraulic-delay upward jarring with positive mechanical release downward. Its mechanical latch locks the jar in neutral to prevent unexpected stroking during drilling, tripping and handling.





FEATURES & BENEFITS

Spline drive
The HMJ spline drive carries torsional forces between the housing and mandrel. It is sealed and lubricated, minimizing friction and increasing component life.

Fewer oil chambers
The WZL HMJ has just two oil chambers – one combined chamber for the spline drive and mechanical latch, and a second for hydraulic jarring. Fewer oil chambers means fewer seals and greater reliability.

Fixed piston
Like all WZL drilling jars, the HMJ has no free-moving balance piston or ports through the housing to the annulus. This keeps fluid and drill cuttings out of the tool, preventing additional wear on seals.

Latch section
The built-in mechanical latch keeps the jar locked in a neutral position, which prevents stroking of the jar downhole and unintentional firing of the jar while drilling or tripping. When latched, the mandrel and housing act integrally, eliminating seal and inner-tool wear. The latch eliminates the need for a safety collar and special handling/precautions on the rig floor.

Hydraulic valve
The HMJ hydraulic valve provides delay when jarring up, allowing drillers to vary overpull and control impact force. The valve resides in its own oil seal chamber for increased reliability, and a robust metering device controls delay times across operating temperatures.

SPECIFICATIONS – IMPERIAL

Nominal OD (in)	Type	Length (ft)	Thru bore (in)	Tensile yield (lb)	Torsional limit (ft-lb)	Pump open area (in²)	Up / down latch setting (lb)	Max pull during delay (lb)	Free up / down / total stroke (in)
3 ⅛	Standard	13.9	1.00	154,500	4,500	4.0	25,000 / 11,000	42,000	5.0 / 6.5 / 15.0
3 ½	Standard	15.0	1.19	213,600	9,000	6.0	35,000 / 15,000	50,000	5.0 / 7.0 / 15.0
3 ¾	Standard	15.1	1.19	213,600	9,000	6.0	35,000 / 15,000	65,000	5.0 / 7.0 / 15.0
4 ⅛	Standard	16.6	2.00	300,800	15,300	9.0	45,000 / 25,000	75,000	5.0 / 6.0 / 15.0
	Ultimate	18.9	2.00	300,800	15,300	9.0	45,000 / 25,000	110,000	5.0 / 6.0 / 15.0
4 ¾	Standard	17.0	2.25	391,000	20,000	11.8	55,000 / 30,000	85,000	5.0 / 6.0 / 15.0
	Ultimate	19.6	2.25	391,000	20,000	11.8	55,000 / 30,000	132,000	5.0 / 6.0 / 15.0
5	Standard	17.0	2.25	391,000	23,300	11.8	55,000 / 30,000	85,000	5.0 / 6.0 / 15.0
5 ¼	Standard	17.0	2.25	391,000	22,800	11.8	55,000 / 30,000	85,000	5.0 / 6.0 / 15.0
	Ultimate	19.6	2.25	391,000	22,800	11.8	55,000 / 30,000	132,000	5.0 / 6.0 / 15.0
5 ¼	Standard	17.9	2.25	554,000	31,500	14.2	55,000 / 30,000	120,000	5.0 / 6.0 / 15.0
6 ¼	Standard	18.0	2.25	803,000	48,500	19.6	90,000 / 40,000	160,000	5.0 / 6.0 / 15.0
	Ultimate	20.5	2.25	803,000	48,500	19.6	90,000 / 40,000	250,000	5.0 / 6.0 / 15.0
6 ½	Standard	18.0	2.25	803,000	52,400	19.6	90,000 / 40,000	160,000	5.0 / 6.0 / 15.0
	Ultimate	20.5	2.25	803,000	52,400	19.6	90,000 / 40,000	250,000	5.0 / 6.0 / 15.0
6 ⅝	Standard	17.9	2.75	747,000	53,800	21.7	90,000 / 40,000	170,000	5.0 / 6.0 / 15.0
	Ultimate	20.5	2.75	747,000	53,800	21.7	90,000 / 40,000	250,000	5.0 / 6.0 / 15.0
6 ¾	Standard	17.9	2.75	908,000	48,800	23.8	95,000 / 42,000	190,000	5.0 / 6.0 / 15.0
	Ultimate	20.5	2.75	908,000	48,800	23.8	95,000 / 42,000	270,000	5.0 / 6.0 / 15.0
8	Standard	18.2	2.81	949,000	89,400	30.7	100,000 / 45,000	240,000	5.5 / 6.0 / 15.0
	Enhanced	18.8	2.81	949,000	89,400	11.0	130,000 / 58,000	240,000	5.5 / 6.0 / 15.0
	Ultimate	20.7	2.81	949,000	89,400	30.7	100,000 / 45,000	400,000	5.5 / 6.0 / 15.0
8 ½	Standard	18.2	2.81	949,000	89,400	30.7	100,000 / 45,000	240,000	5.5 / 6.0 / 15.0
	Enhanced	18.8	2.81	949,000	89,400	11.0	130,000 / 58,000	240,000	5.5 / 6.0 / 15.0
9	Standard	19.1	3.00	1,221,000	96,200	38.5	110,000 / 50,000	240,000	5.5 / 6.0 / 15.0
	Enhanced	19.6	3.00	1,221,000	96,200	12.6	150,000 / 67,000	240,000	5.5 / 6.0 / 15.0
9 ½	Standard	19.2	3.00	1,658,500	139,400	41.3	110,000 / 50,000	240,000	5.5 / 6.0 / 15.0
	Enhanced	19.6	3.00	1,658,500	139,400	12.6	150,000 / 67,000	240,000	5.5 / 6.0 / 15.0
10	Ultimate	21.9	3.00	1,658,500	160,500	44.2	110,000 / 50,000	580,000	5.5 / 6.0 / 15.0

Specifications are based on as-new condition and are subject to change without notice. As-new OD is typically the nominal OD plus API drill collar allowance.

EXPAND YOUR OPTIONS WITH CONVERTIBLE JARS

For added flexibility, consider our HJDA or HMDA drilling jars, which can be converted to a Hydraulic Mechanical Single-Acting (HMSA) jar. The HMSA is similar in function to the conventional HMJ, but with a longer stroke adopted from the base HJDA/HMDA design. Contact a WZL representative for details.

DELIVER THE ULTIMATE PUNCH

The WZL HMJ is also available in Enhanced or our proprietary Ultimate configurations. Our Ultimate jars give operators the highest overpull capacity on the market.

SPECIFICATIONS – METRIC

Nominal OD (mm)	Type	Length (m)	Thru bore (mm)	Tensile yield (daN)	Torsional limit (N·m)	Pump open area (mm²)	Up / down latch setting (daN)	Max pull during delay (daN)	Free up / down / total stroke (mm)
79	Standard	4.2	25	68,700	6,100	2,600	11,100 / 4,900	18,700	130 / 170 / 380
89	Standard	4.6	30	95,000	12,200	3,900	15,600 / 6,700	22,200	130 / 180 / 380
95	Standard	4.6	30	95,000	12,200	3,900	15,600 / 6,700	28,900	130 / 180 / 380
105	Standard	5.1	51	133,800	20,700	5,800	20,000 / 11,100	33,400	130 / 150 / 380
	Ultimate	5.8	51	133,800	20,700	5,800	20,000 / 11,100	48,900	130 / 150 / 380
121	Standard	5.2	57	173,900	27,100	7,600	24,500 / 13,300	37,800	130 / 150 / 380
	Ultimate	6.0	57	173,900	27,100	7,600	24,500 / 13,300	58,700	130 / 150 / 380
127	Standard	5.2	57	173,900	31,600	7,600	24,500 / 13,300	37,800	130 / 150 / 380
133	Standard	5.2	57	173,900	30,900	7,600	24,500 / 13,300	37,800	130 / 150 / 380
	Ultimate	6.0	57	173,900	30,900	7,600	24,500 / 13,300	58,700	130 / 150 / 380
133	Standard	5.5	57	246,400	42,700	9,200	24,500 / 13,300	53,400	130 / 150 / 380
159	Standard	5.5	57	357,200	65,800	12,700	40,000 / 17,800	71,200	130 / 150 / 380
	Ultimate	6.3	57	357,200	65,800	12,700	40,000 / 17,800	111,200	130 / 150 / 380
165	Standard	5.5	57	357,200	71,000	12,700	40,000 / 17,800	71,200	130 / 150 / 380
	Ultimate	6.3	57	357,200	71,000	12,700	40,000 / 17,800	111,200	130 / 150 / 380
168	Standard	5.5	70	332,300	72,900	14,000	40,000 / 17,800	75,600	130 / 150 / 380
	Ultimate	6.3	70	332,300	72,900	14,000	40,000 / 17,800	111,200	130 / 150 / 380
171	Standard	5.5	70	403,900	66,200	15,300	42,300 / 18,700	84,500	130 / 150 / 380
	Ultimate	6.2	70	403,900	66,200	15,300	42,300 / 18,700	120,100	130 / 150 / 380
203	Standard	5.5	71	422,100	121,200	19,800	44,500 / 20,000	106,800	140 / 150 / 380
	Enhanced	5.7	71	422,100	121,200	7,100	57,800 / 25,800	106,800	140 / 150 / 380
	Ultimate	6.3	71	422,100	121,200	19,800	44,500 / 20,000	177,900	140 / 150 / 380
216	Standard	5.5	71	422,100	121,200	19,800	44,500 / 20,000	106,800	140 / 150 / 380
	Enhanced	5.7	71	422,100	121,200	7,100	57,800 / 25,800	106,800	140 / 150 / 380
229	Standard	5.8	76	543,100	130,400	24,800	48,900 / 22,200	106,800	140 / 150 / 380
	Enhanced	6.0	76	543,100	130,400	8,100	66,700 / 29,800	106,800	140 / 150 / 380
241	Standard	5.9	76	737,700	189,000	26,600	48,900 / 22,200	106,800	140 / 150 / 380
	Enhanced	6.0	76	737,700	189,000	8,100	66,700 / 29,800	106,800	140 / 150 / 380
254	Ultimate	6.7	76	737,700	217,600	28,500	48,900 / 22,200	258,000	140 / 150 / 380

Specifications are based on as-new condition and are subject to change without notice. As-new OD is typically the nominal OD plus API drill collar allowance.