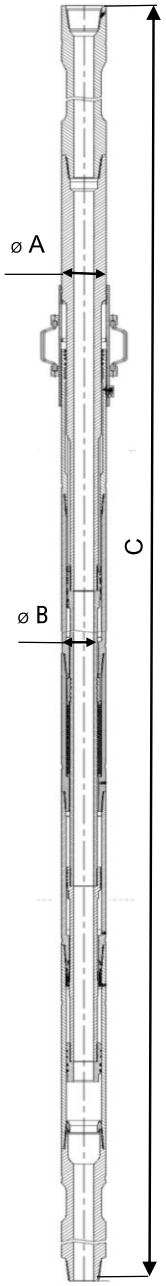
HYDRALIC MECHANICAL DRILLING JAR
SDT - HMJ475
TOOL DATA SHEET



Specification	Imperial	Metric
Nominal OD (A)	4.88 in	124 mm
Thru Bore (B)	2.16 in	55 mm
Free stroke Up	9 in	230 mm
Free stroke Down	5.9 in	150 mm
Length in fixed position (C)	45 005 ft	6747 mm
Hydraulic delay time	30 - 150 sec	30 - 150 sec
Nominal Up latch setting	55 000 lbs	25 000 kgf
Nominal Down latch setting	35 900 lbs	16 300 kgf
Jar working area	11.78 in.sq.	76 sm.sq.
Maximum pull during hydraulic delay	76 200 lbs	34 600 kgf
Tensile yield	275 500 lbs	125 000 kgf
Torsional limit	13 276 ft-lbs	18 000 N·m
Connecting threads	NC38	NC38
Make up torque	8 851- 10 325 ft-lbs	12 000 - 14 000 N·m
Maximum operating temperature	302 °F	150 °C
Weight	749 lb	340 kg

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HYDRALIC MECHANICAL DRILLING JAR
SDT - HMJ675
TOOL DATA SHEET

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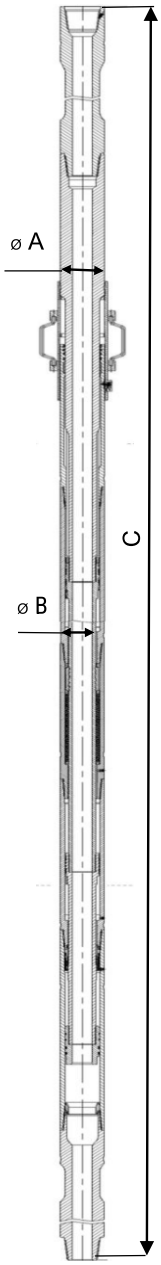

Specification	Imperial	Metric
Nominal OD (A)	6.73 in	175 mm
Thru Bore (B)	2.75 in	70 mm
Free stroke Up	9 in	230 mm
Free stroke Down	5.9 in	150 mm
Length in fixed position (C)	22.15 ft	6747 mm
Hydraulic delay time	30 - 150 sec	30 - 150 sec
Nominal Up latch setting	130 000 lbs	59 000 kgf
Nominal Down latch setting	70 500 lbs	32 000 kgf
Jar working area	23.7 in.sq.	153 sm.sq.
Maximum pull during hydraulic delay	189 600 lbs	86 000 kgf
Tensile yield	705 500 lbs	320 000 kgf
Torsional limit	36 100 ft-lbs	49 000 N·m
Connecting threads	NC 50	NC 50
Make up torque	28750 - 33200 ft-lbs	39000-45000 N·m
Maximum operating temperature	302 °F	150 °C
Weight	1926 lb	874 kg

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HYDRALIC MECHANICAL DRILLING JAR
SDT - HMJ800
TOOL DATA SHEET

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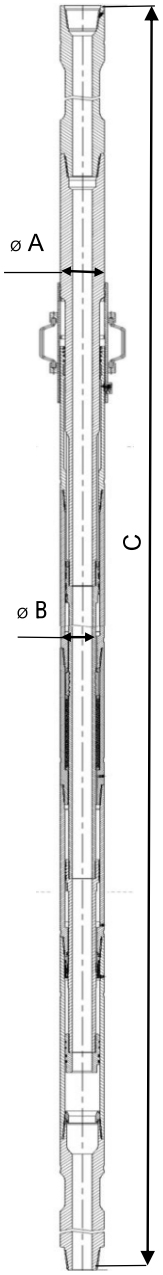

Specification	Imperial	Metric
Nominal OD (A)	8 in	203 mm
Thru Bore (B)	2.75 in	70 mm
Free stroke Up	9 in	230 mm
Free stroke Down	5 9 in	150 mm
Length in fixed position (C)	22.97 ft	7000 mm
Hydraulic delay time	30 - 150 sec	30 - 150 sec
Nominal Up latch setting	154 300 lbs	70 000 kgf
Nominal Down latch setting	99 200 lbs	45 000 kgf
Jar working area	30.69 in.sq.	198 sm.sq.
Maximum pull during hydraulic delay	242 500 lbs	110 000 kgf
Tensile yield	804 500 lbs	365 000 kgf
Torsional limit	61 900 ft-lbs	84 000 N·m
Connecting threads	6 5/8 Reg	6 5/8 Reg
Make up torque	47900-51500 ft-lbs	65000 - 70000 N·m
Maximum operating temperature	302 °F	150 °C
Weight	2866 lb	1300 kg

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HYDRALIC MECHANICAL DRILLING JAR
SDT - HMJ950
TOOL DATA SHEET

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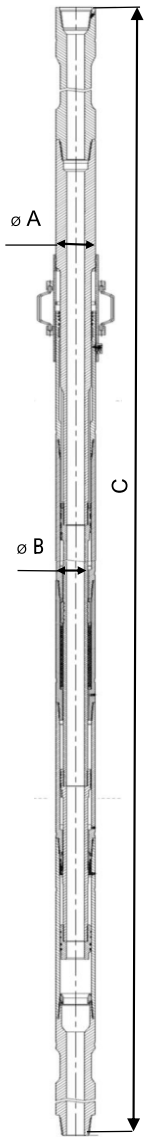

Specification	Imperial	Metric
Nominal OD (A)	9.49 in	241 mm
Thru Bore (B)	2.99 in	76 mm
Free stroke Up	9 in	230 mm
Free stroke Down	5.9 in	150 mm
Length in fixed position (C)	22.97 ft	7000 mm
Hydraulic delay time	30 - 150 sec	30 - 150 sec
Nominal Up latch setting	165 000 lbs	75 000 kgf
Nominal Down latch setting	108 000 lbs	49 000 kgf
Jar working area	41.2 in.sq.	266 sm.sq.
Maximum pull during hydraulic delay	242 500 lbs	110 000 kgf
Tensile yield	1 197 000 lbs	543 000 kgf
Torsional limit	125 400 ft-lbs	170 000 N·m
Connecting threads:	7 5/8 Reg	7 5/8 Reg
Make up torque	59000 - 66400 ft-lbs	80000 - 90000 N·m
Maximum operating temperature	302 °F	150 °C
Weight	4079 lb	1850 kg

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HYDRALIC DRILLING JAR
SDT - HJ475
TOOL DATA SHEET

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Specification	Imperial	Metric
Nominal OD	4.88 in	124 mm
Thru Bore	2.2 in	56 mm
Length in open position	18 ft	5 500 mm
Length in fixed position	16 ft	4 900 mm
Free stroke after hydraulic delay during extension	7.28 in	185 mm
Free stroke after hydraulic delay during compression	7.28 in	185 mm
Hydraulic delay test load *	40780 - 47 400 lbs	18 500 - 21 500 kgf
Hydraulic delay time *	30 - 150 sec	30 - 150 sec
Jar working area	12.4 in.sq.	80 sm.sq.
Maximum tensile (compressive) load during hydraulic delay	77 150 lbs	35 000 kgf
Maximum tensile load during pulling out of hole	286 600 lbs	130 000 kgf
Maximum torque	13 000 ft-lbs	1 800 kgf*m
Connecting threads	NC38	NC38
Tightening torque for connecting threads	6 680 - 10 120 ft-lbs	1 200 - 1 400 kgf*m
Maximum operating temperature ***	248 °F	120 °C
Weight	705.5 lb	320 kg
Overhaul period, hours below the rotary table **	500 hours	500 hours

* Actual values are indicated in the jar's pass

** When using drilling mud with a chloride ion content of more than 50,000 mg/l as a flushing fluid, the jar is subject for maintenance when the running time reaches 250 hours (time below the rotary table).

***- By agreement, the jar can be manufactured in a heat-resistant version with a working temperature of up to 150 °C (302 °F).

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HYDRALIC DRILLING JAR
SDT - HJ650
TOOL DATA SHEET

Smart Drilling Tools INTERNATIONAL

Specification	Imperial	Metric
Nominal OD	6.61 in	168 mm
Thru Bore	2.76 in	70 mm
Length in open position	18.4 ft	5 600 mm
Length in fixed position	16.4 ft	5 000 mm
Free stroke after hydraulic delay during extension	7.48 in	190 mm
Free stroke after hydraulic delay during compression	7.48 in	190 mm
Hydraulic delay test load *	83 800 - 92 600 lbs	38 000 - 42 000 kgf
Hydraulic delay time *	30 - 150 sec	30 - 150 sec
Jar working area	24.8 in.sq.	160 sm.sq.
Maximum tensile (compressive) load during hydraulic delay	176 370 lbs	80 000 kgf
Maximum tensile load during pulling out of hole	617 290 lbs	280 000 kgf
Maximum torque	22 120 ft-lbs	3 000 kgf*m
Connecting threads	NC50	NC50
Tightening torque for connecting threads	18 400 - 19 900 ft-lbs	2 500 - 2 700 kgf*m
Maximum operating temperature ***	248 °F	120 °C
Weight	1 313 lb	596 kg
Overhaul period, hours below the rotary table **	750 hours	750 hours

* Actual values are indicated in the jar's pass

** When using drilling mud with a chloride ion content of more than 50,000 mg/l as a flushing fluid, the jar is subject for maintenance when the running time reaches 250 hours (time below the rotary table).

***- By agreement, the jar can be manufactured in a heat-resistant version with a working temperature of up to 150 °C (302 °F).

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HYDRALIC DRILLING JAR
SDT - HJ800
TOOL DATA SHEET

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Specification	Imperial	Metric
Nominal OD	8.15 in	207 mm
Thru Bore	2.76 in	70 mm
Length in open position	22.3 ft	6 800 mm
Length in fixed position	20.3 ft	6 200 mm
Free stroke after hydraulic delay during extension	7.87 in	200 mm
Free stroke after hydraulic delay during compression	7.87 in	200 mm
Hydraulic delay test load *	94 800 - 103 600 lbs	43 000 - 47 000 kgf
Hydraulic delay time *	30 - 150 sec	30 - 150 sec
Jar working area	30.7 in.sq.	198 sm.sq.
Maximum tensile (compressive) load during hydraulic delay	242 500 lbs	110 000 kgf
Maximum tensile load during pulling out of hole	804 700 lbs	365 000 kgf
Maximum torque	60 700 ft-lbs	8 400 kgf*m
Connecting threads	6 5/8 Reg	6 5/8 Reg
Tightening torque for connecting threads	47 000 - 50 600 ft-lbs	6 500 - 7 000 kgf*m
Maximum operating temperature ***	248 °F	120 °C
Weight	2425 lb	1 100 kg
Overhaul period, hours below the rotary table **	750 hours	750 hours

* Actual values are indicated in the jar's pass

** When using drilling mud with a chloride ion content of more than 50,000 mg/l as a flushing fluid, the jar is subject for maintenance when the running time reaches 250 hours (time below the rotary table).

***- By agreement, the jar can be manufactured in a heat-resistant version with a working temperature of up to 150 °C (302 °F).

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HYDRALIC DRILLING JAR
SDT - HJ950
TOOL DATA SHEET

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Specification	Metric	Imperial
Nominal OD	241 mm	9.48 in
Thru Bore	76 mm	3 in
Length in open position	6 800 mm	22.3 ft
Length in fixed position	6 200 mm	20.3 ft
Free stroke after hydraulic delay during extension	200 mm	7.87 in
Free stroke after hydraulic delay during compression	200 mm	7.87 in
Hydraulic delay test load *	47 000 - 51 000 kgf	103 600 - 112 400 lbs
Hydraulic delay time *	30 - 150 sec	30 - 150 sec
Jar working area	266 sm.sq.	41.2 in.sq.
Maximum tensile (compressive) load during hydraulic delay	110 000 kgf	242 500 lbs
Maximum tensile load during pulling out of hole	543 000 kgf	1 197 100 lbs
Maximum torque	17 000 kgf*m	122 960 ft-lbs
Connecting threads	7 5/8 Reg	7 5/8 Reg
Tightening torque for connecting threads	8 000 - 9 000 kgf*m	57 850 - 65 100 ft-lbs
Maximum operating temperature ***	120 °C	248 °F
Weight	1 500 kg	3 307 lb
Overhaul period, hours below the rotary table **	750 hours	750 hours

* Actual values are indicated in the jar pass

** When using drilling mud with a chloride ion content of more than 50,000 mg/l as a flushing fluid, the jar is subject for maintenance when the running time reaches 250 hours (time below the rotary table).

***- By agreement, the jar can be manufactured in a heat-resistant version with a working temperature of up to 150°C (302°F).

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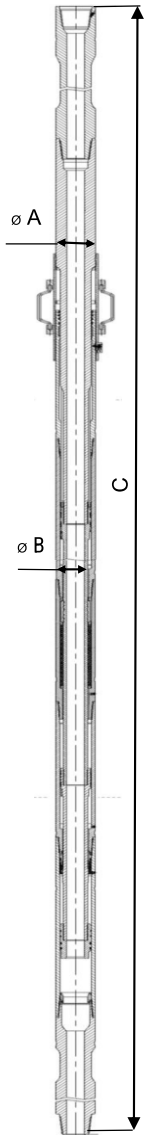
HYDRALIC DRILLING JAR
WITH MECHANICAL LATCH SDT - HJML475
TOOL DATA SHEET



Specification	Imperial	Metric
Nominal OD	4.88 in	124 mm
Thru Bore	2.2 in	56 mm
Length in fixed position	23.13 ft	7 050 mm
Free stroke after hydraulic delay during extension	7.28 in	185 mm
Free stroke after hydraulic delay during compression	7.28 in	185 mm
Hydraulic delay test load *	40780 - 47 400 lbs	18 500 - 21 500 kgf
Hydraulic delay time *	30 - 150 sec	30 - 150 sec
Nominal Up latch setting	55 000 lbs	25 000 kgf
Nominal Down latch setting	35 900 lbs	16 300 kgf
Pump open area	11.78 in.sq.	76 sm.sq.
Maximum tensile (compressive) load during hydraulic delay	77 150 lbs	35 000 kgf
Tensile yield	286 600 lbs	130 000 kgf
Maximum torque	13 000 ft-lbs	1 800 kgf*m
Thread connections	NC38	NC38
Make up torque	6 680 - 10 120 ft-lbs	1 200 - 1 400 kgf*m
Maximum operating temperature ***	248 °F	120 °C
Weight	930 lb	422 kg
Time between service, hours below rotary table **	500 hours	500 hours

* Actual values are indicated in the tool test report
** Tool should be sent for maintenance when cumulative time below rotary table reaches 250 hours, in case is used in drilling fluid with chlorides content of more than 50,000 mg/l.
*** As per special request tools can be manufactured in HT version with working temperature of up to 150°C (302°F).

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HYDRALIC DRILLING JAR
WITH MECHANICAL LATCH SDT - HJML650
TOOL DATA SHEET

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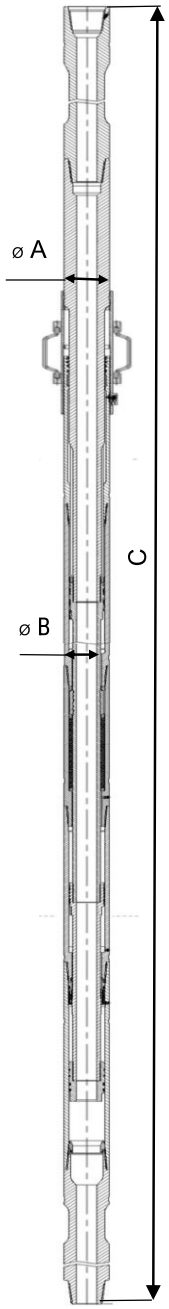

Specification	Imperial	Metric
Nominal OD	6.61 in	168 mm
Thru Bore	2.76 in	70 mm
Length in fixed position	24.1 ft	7 350 mm
Free stroke after hydraulic delay during extension	7.48 in	190 mm
Free stroke after hydraulic delay during compression	7.48 in	190 mm
Hydraulic delay test load *	83 800 - 92 600 lbs	38 000 - 42 000 kgf
Hydraulic delay time *	30 - 150 sec	30 - 150 sec
Nominal Up latch setting	130 000 lbs	59 000 kgf
Nominal Down latch setting	70 500 lbs	32 000 kgf
Pump open area	24.8 in.sq.	160 sm.sq.
Maximum tensile (compressive) load during hydraulic delay	176 370 lbs	80 000 kgf
Tensile yield	617 290 lbs	280 000 kgf
Maximum torque	22 120 ft-lbs	3 000 kgf*m
Thread connections	NC50	NC50
Make up torque	18 400 - 19 900 ft-lbs	2 500 - 2 700 kgf*m
Maximum operating temperature ***	248 °F	120 °C
Weight	1 800 lb	820 kg
Time between service, hours below rotary table **	750 hours	750 hours

* Actual values are indicated in the tool test report

** Tool should be sent for maintenance when cumulative time below rotary table reaches 250 hours, in case is used in drilling fluid with chlorides content of more than 50,000 mg/l.

*** As per special request tools can be manufactured in HT version with working temperature of up to 150°C (302°F).

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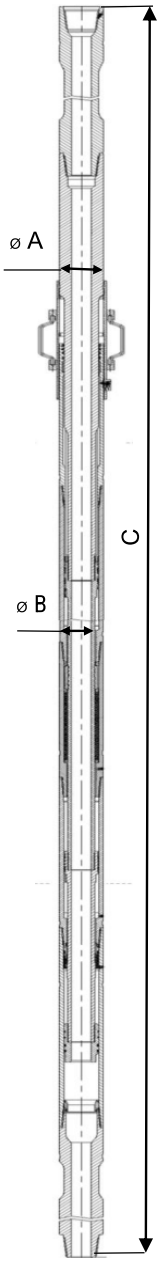
HYDRALIC DRILLING JAR
WITH MECHANICAL LATCH SDT - HJML800
TOOL DATA SHEET

Smart Drilling Tools INTERNATIONAL



Specification	Imperial	Metric
Nominal OD	8.15 in	207 mm
Thru Bore	2.76 in	70 mm
Length in fixed position	24.93 ft	7 600 mm
Free stroke after hydraulic delay during extension	7.87 in	200 mm
Free stroke after hydraulic delay during compression	7.87 in	200 mm
Hydraulic delay test load *	94 800 - 103 600 lbs	43 000 - 47 000 kgf
Hydraulic delay time *	30 - 150 sec	30 - 150 sec
Nominal Up latch setting	154 300 lbs	70 000 kgf
Nominal Down latch setting	99 200 lbs	45 000 kgf
Pump open area	30.7 in.sq.	198 sm.sq.
Maximum tensile (compressive) load during hydraulic delay	242 500 lbs	110 000 kgf
Tensile yield	804 700 lbs	365 000 kgf
Maximum torque	60 700 ft-lbs	8 400 kgf*m
Thread connections	6 5/8 Reg	6 5/8 Reg
Make up torque	47 000 - 50 600 ft-lbs	6 500 - 7 000 kgf*m
Maximum operating temperature ***	248 °F	120 °C
Weight	3 140 lb	1 425 kg
Time between service, hours below rotary table **	750 hours	750 hours

* Actual values are indicated in the tool test report
** Tool should be sent for maintenance when cumulative time below rotary table reaches 250 hours, in case is used in drilling fluid with chlorides content of more than 50,000 mg/l.
*** As per special request tools can be manufactured in HT version with working temperature of up to 150°C (302°F).

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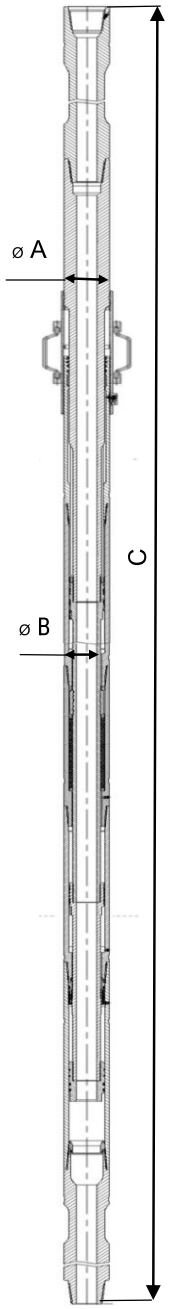
HYDRALIC DRILLING JAR
WITH MECHANICAL LATCH SDT - HJML950
TOOL DATA SHEET



Specification	Imperial	Metric
Nominal OD	9.49 in	241 mm
Thru Bore	3 in	76 mm
Length in fixed position	25.26 ft	7 700 mm
Free stroke after hydraulic delay during extension	7.87 in	200 mm
Free stroke after hydraulic delay during compression	7.87 in	200 mm
Hydraulic delay test load *	103 600 - 112 400 lbs	47 000 - 51 000 kgf
Hydraulic delay time *	30 - 150 sec	30 - 150 sec
Nominal Up latch setting	165 000 lbs	75 000 kgf
Nominal Down latch setting	108 000 lbs	49 000 kgf
Pump open area	41.2 in.sq.	266 sm.sq.
Maximum tensile (compressive) load during hydraulic delay	242 500 lbs	110 000 kgf
Tensile yield	1 197 100 lbs	543 000 kgf
Maximum torque	122 960 ft-lbs	17 000 kgf*m
Thread connections	7 5/8 Reg	7 5/8 Reg
Make up torque	57 850 - 65 100 ft-lbs	8 000 - 9 000 kgf*m
Maximum operating temperature ***	248 °F	120 °C
Weight	4 300 lb	1 950 kg
Time between service, hours below rotary table **	750 hours	750 hours

* Actual values are indicated in the tool test report

** Tool should be sent for maintenance when cumulative time below rotary table reaches 250 hours, in case is used in drilling fluid with chlorides content of more than 50,000 mg/l.

*** As per special request tools can be manufactured in HT version with working temperature of up to 150°C (302°F).

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