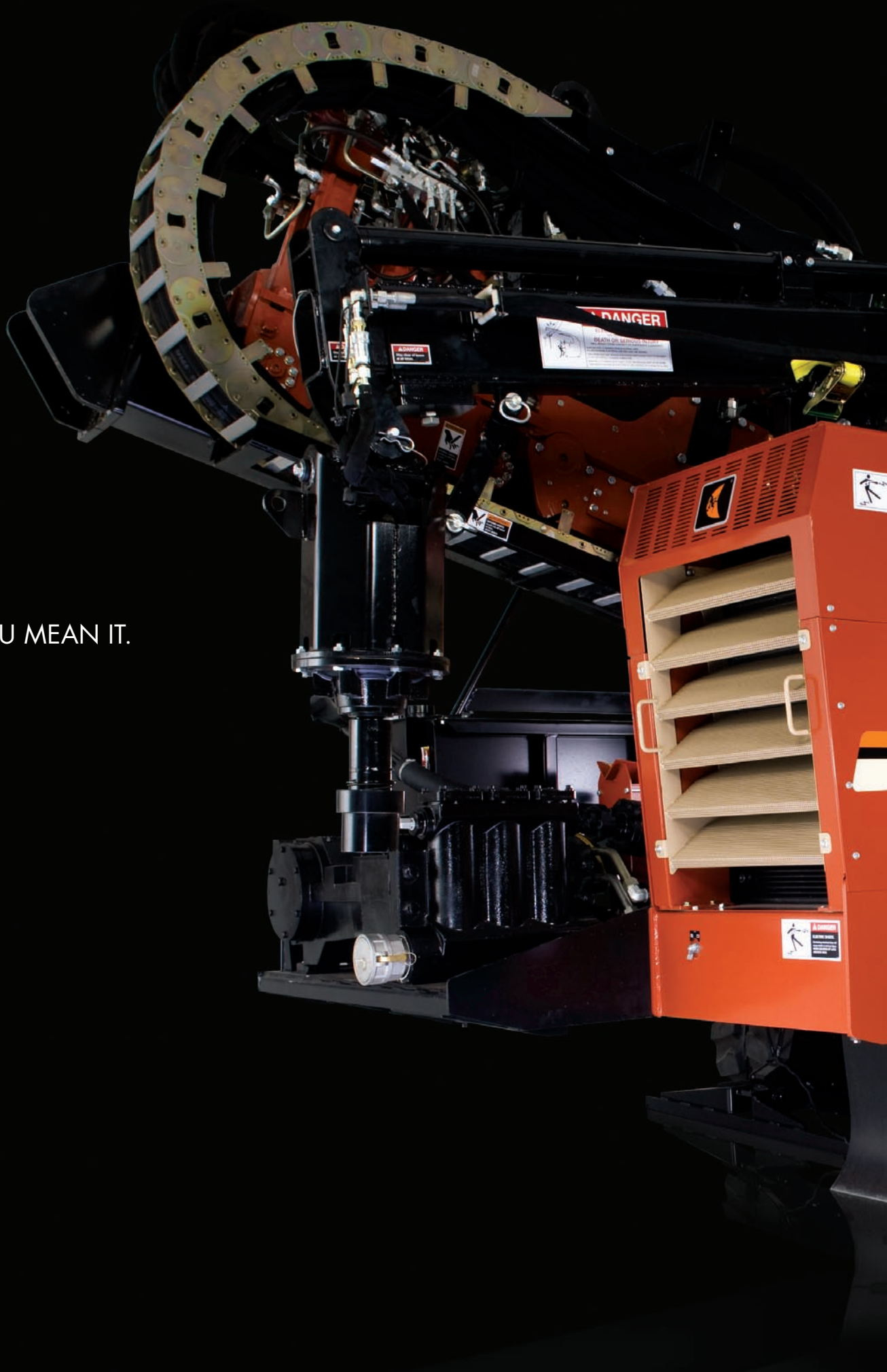
DITCH WITCH JT100 MACH 1, JT4020 MACH 1

DIRECTIONAL DRILLS



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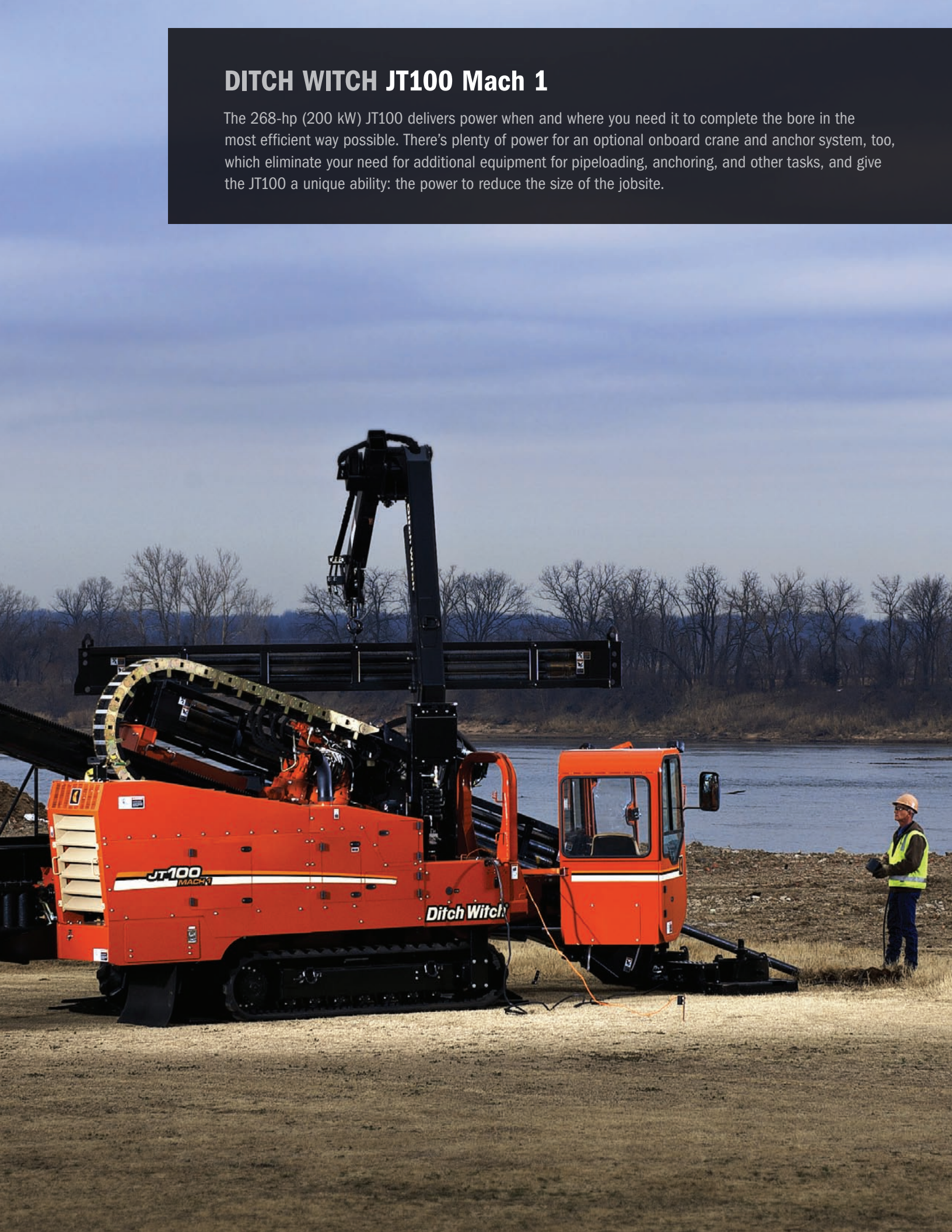
DRILL LIKE YOU MEAN IT.

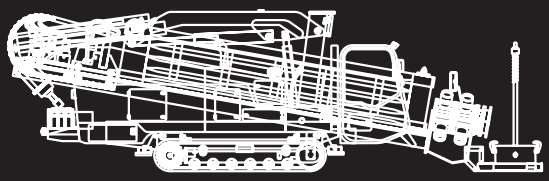


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DITCH WITCH JT100 Mach 1

The 268-hp (200 kW) JT100 delivers power when and where you need it to complete the bore in the most efficient way possible. There's plenty of power for an optional onboard crane and anchor system, too, which eliminate your need for additional equipment for pipeloading, anchoring, and other tasks, and give the JT100 a unique ability: the power to reduce the size of the jobsite.





SPECIFICATIONS

DIMENSIONS	U.S.	METRIC
Length	368 in	9.35 m
Height	110 in	2.79 m
Width	101 in	2.57 m



A



B



KEY FEATURES

• The JT100's 268-hp (200 kW) engine delivers more raw power more efficiently to all drilling functions so you can get the job done faster.

• 100,000 lb (445 kN) of pullback and 12,000 ft·lb (16,300 N·m) of torque make the JT100 ideal for very long bores and installations of large-diameter pipe.

• *(Photograph A)* Optional onboard crane and exclusive Ditch Witch® heavy-duty anchor system eliminate the need for large and expensive support equipment, reducing your transportation costs, setup time, and jobsite size.

• Machine stability is imperative, and the JT100's exclusive dual-pivot drill frame allows the entry angles you need without compromising stability—or operator comfort—while drilling.

• Infinitely variable rotary drive enables the JT100 to match spindle speed and torque to power through virtually any soil condition.

• *(Photograph B)* The JT100's double rack-and-pinion thrust drive is field-proven and heavy-duty enough to push through—and pull you through—the long, tough bores.

• Large-capacity, 230-gpm (870 L/min) fluid pump plus larger hoses and fittings help move fluid downhole faster, for greater productivity; special damping feature reduces the downhole shockloads associated with greater fluid flow.

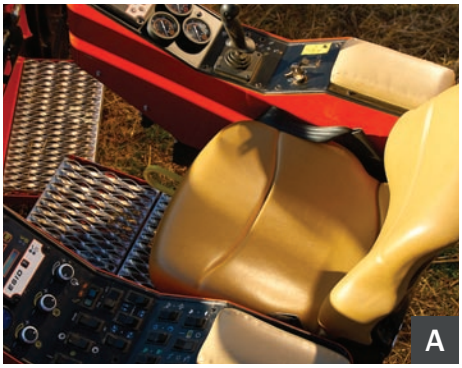
• Exclusive assisted makeup feature automatically adjusts carriage thrust speed when making up and breaking out drill pipe, minimizing wear on pipe threads and extending the life of the drill pipe.

• The JT100 is the only drill in its class that enables the transfer of drill pipe from one box to another—and allows you to add or remove the upper pipe box—without additional support equipment, so the pipe box is never empty.

DITCH WITCH JT4020 Mach 1

Equal parts brains and brawn, the compact JT4020 Mach 1 can't wait to tackle your big drilling jobs. Utilizing specialized, 15-ft (4.5 m) Ditch Witch® drill pipe, the rubber-tracked JT4020 Mach 1 has the power and stability to pull multiple conduits up to 1000 feet (305 m) in a single pass—assisted by an exclusive cruise control feature that maintains thrust and rotation settings. You expect more from Ditch Witch equipment—more innovation, more power—and the JT4020 Mach 1 delivers.




A


B

KEY FEATURES

• With the JT4020's field-proven, heavy-duty rack-and-pinion thrust drive with welded-on double rack, you'll spend more time drilling and less time on maintenance.

• Equipped with a 190-hp (142 kW) diesel engine, the JT4020 has the power to drive all drilling functions simultaneously—and drive your productivity way up.

• *(Photograph A)* Touch-sensitive, variable-speed, electric-over-hydraulic controls are designed to minimize operator effort; thrust/pullback and rotation are controlled by a single lever.

• *(Photograph B)* You can secure the JT4020 in all types of ground conditions thanks to its innovative hydraulic, four-point anchor system.

• Industry-leading pipeloader system—featuring hydraulic pipe grippers, single pipe loading, hydraulic shuttle stops, and automated thread lubrication—saves you time, money, and effort.

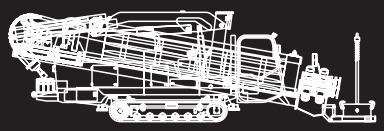
• The JT4020 provides the high drilling fluid flow you need for the tough jobs; an on-board pump enables productive drilling at extended distances, while a normal flow rate can be operated simultaneously with thrust/pullback and rotation.

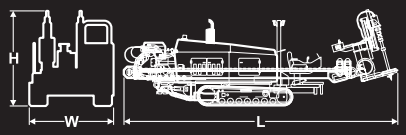
• Two-speed carriage allows faster travel during makeup and breakout: exceptional low-speed drilling control plus higher speeds for rapidly adding or removing drill pipe.

• Rubber tracks minimize damage to pavement, curbs, lawns, and landscaping, which keeps your restoration costs down.

• Ditch Witch-patented Fluid Miser® II drill pipe requires significantly less drilling fluid than unlined pipe, reducing cleanup time and expense.

• Ditch Witch dealers sell and support everything necessary for HDD operations, including the drilling unit, fluid-mixing systems, downhole tools, drill pipe, and electronics.





SPECIFICATIONS

	JT100 MACH 1		JT4020 MACH 1	
DIMENSIONS	**U.S.**	**METRIC**	**U.S.**	**METRIC**
OVERALL MACHINE LENGTH*	368 IN	9.35 M	337 IN	8.56 M
OVERALL MACHINE WIDTH*	101 IN	2.57 M	87 IN	2.21 M
OVERALL MACHINE HEIGHT*	110 IN	2.79 M	96 IN	2.44 M
DRILLING UNIT OPERATING MASS*	45,300 LB	20 500 KG	27,700 LB	12 560 KG
ENTRY ANGLE*	10-15°		10-16°	
ANGLE OF APPROACH	13°		17°	
ANGLE OF DEPARTURE	17°		13°	
POWER PIPE				
LENGTH OF DRILL PIPE, NOMINAL*	177 IN	4.5 M	177 IN	4.5 M
DIAMETER OF DRILL PIPE, TOOL JOINT END*	4.0 IN	102 MM	3.5 IN	89 MM
DIAMETER OF DRILL PIPE*	3.62 IN	92 MM	2.81 IN	71 MM
BEND RADIUS, MINIMUM	230 FT	70 M	190 FT	58 M
WEIGHT OF DRILL PIPE*	229 LB	104 KG	158 LB	72 KG
WEIGHT OF DRILL PIPE & LARGE BOX (32 PIPE)	N/A		6000 LB	2720 KG
WEIGHT OF DRILL PIPE & SMALL BOX (16 PIPE)	N/A		3100 LB	1410 KG
WEIGHT OF DRILL PIPE & BOX (12 PIPE)	3760 LB	1710 KG	N/A	
OPERATION				
SPINDLE SPEED, MAXIMUM*	210 RPM		240 RPM	
SPINDLE TORQUE, MAXIMUM*	12,000 FT•LB	16 300 N•M	5000 FT•LB	6800 N•M
CARRIAGE THRUST TRAVEL SPEED*	150 FPM	46 M/MIN	120 FPM	37 M/MIN
CARRIAGE PULLBACK TRAVEL SPEED*	150 FPM	46 M/MIN	120 FPM	37 M/MIN
THRUST FORCE*	70,000 LB	311 KN	36,000 LB	160 KN
PULLBACK FORCE*	100,000 LB	445 KN	40,000 LB	178 KN
BORE DIAMETER	6 IN	152 MM	5 IN	127 MIN
BACKREAM DIAMETER	SOIL DEPENDENT		SOIL DEPENDENT	
GROUND TRAVEL SPEED, FORWARD*	3.6 MPH	5.8 KM/H	2.5 MPH	4 KM/H
GROUND TRAVEL SPEED, REVERSE*	3.6 MPH	5.8 KM/H	2.5 MPH	4 KM/H
POWER				
ENGINE	DEUTZ TCD2013L06-2V		CUMMINS QSB6.7	
FUEL	DIESEL		DIESEL	
COOLING MEDIUM	LIQUID		LIQUID	
INJECTION	DIRECT		DIRECT	
ASPIRATION	TURBOCHARGED & CHARGE AIR COOLED		TURBOCHARGED & CHARGE AIR COOLED	
NUMBER OF CYLINDERS	6		6	
DISPLACEMENT	436 IN^3	7.15 L	409 IN^3	6.7 L
BORE	4.25 IN	108 MM	4.21 IN	107 MM
STROKE	5.1 IN	130 MM	4.88 IN	124 MM
MANUFACTURER'S GROSS POWER RATING**	268 HP	200 KW	190 HP	142 KW
RATED SPEED	2300 RPM		2400 RPM	
EMISSIONS COMPLIANCE	EPA TIER 3	EU STAGE IIIA	EPA TIER 3	EU STAGE IIIA
DRILLING FLUID SYSTEM (ONBOARD)				
DRILLING FLUID PRESSURE, MAXIMUM*	1000 PSI	69 BAR	1300 PSI	90 BAR
DRILLING FLUID FLOW, MAXIMUM*	230 GPM	870 L/MIN	120 GPM	450 L/MIN
FLUID CAPACITIES				
HYDRAULIC RESERVOIR	47 GAL	180 L	36 GAL	136 L
FUEL TANK	97 GAL	370 L	55 GAL	208 L
BATTERY (2 USED)				
SAE RESERVE CAPACITY RATING	450 MIN		195 MIN	
SAE COLD CRANK RATING @ 0° F (-18° C)	1400 AMPS		950 AMPS	

SPECIFICATIONS ARE GENERAL AND SUBJECT TO CHANGE WITHOUT NOTICE. IF EXACT MEASUREMENTS ARE REQUIRED, EQUIPMENT SHOULD BE WEIGHED AND MEASURED. DUE TO SELECTED OPTIONS, DELIVERED EQUIPMENT MAY NOT NECESSARILY MATCH THAT SHOWN. CONTAINS PATENTED FEATURES. *CALLED OUT ACCORDING TO SAE J2022, **CALLED OUT ACCORDING TO SAE J1995

Ditch Witch®
GROUNDBREAKING™

THE CHARLES MACHINE WORKS, INC. DITCH WITCH WORLDWIDE HEADQUARTERS PERRY, OK 73077-0066 U.S.A.

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FOR INFORMATION ON DITCH WITCH FINANCIAL SERVICES, GIVE US A CALL

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