



DITCH WITCH JT3020 MACH 1, JT2020 MACH 1, JT1220 MACH 1

DIRECTIONAL DRILLS



THAT OLD ORANGE MAGIC.



JT2020
MACH1

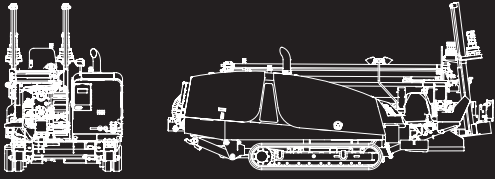
Ditch Witch®

▲ DANGER
ELECTRIC SHOCK
Consult your manual for
WARNING SYMBOLS AND
SAFETY INFO.

DITCH WITCH JT3020 Mach 1 Directional Drill

With the JT3020 Mach 1 directional drill, you can utilize every bit of its 148-hp (110 kW) turbocharged diesel engine in tough drilling conditions. The JT3020's heavy-duty anchor system and double-pivot drill frame provide outstanding stability.





SPECIFICATIONS

DIMENSIONS

	U.S.	METRIC
Length	221 in	5.61 m
Height	119 in	3.02 m
Width	80 in	2.03 m



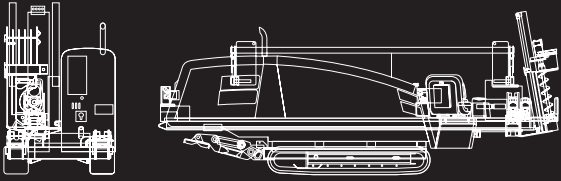
KEY FEATURES

- Cummins turbocharged diesel engine with “power bulge” automatically increases its torque when others would lug down or stall, so you can power through the toughest bores.
- (Photograph A) Field-proven, heavy-duty rack-and-pinion thrust drive with welded-on double rack offers minimum maintenance and maximum reliability.
- (Photograph B) Operator’s station—including an exclusive electronic information center—puts all drilling information and control at the operator’s fingertips.
- Rugged, long-wearing fluid pump delivers 42-viscosity drilling mud at 50 gpm (189 L/min).
- Heavy-duty anchor system uses as much torque as drills twice its size to anchor and hold in virtually any drilling condition; anchor motors don’t have to be disconnected, so setup is quick and easy.
- Open-top vise wrenches are angled toward the operator for an excellent view of the tool joint; wrenches require no daily maintenance.
- Patented pipeloading system is field-proven and operator-approved, with hydraulically powered shuttle grippers, hydraulic pipe-row selection, and a single pipeloading feature.
- Industry-exclusive double-pivot drill frame allows steep entry angles without compromising machine stability while drilling.
- Optional fully enclosed, climate-controlled cab provides operator comfort and reduces jobsite noise.

DITCH WITCH JT2020 Mach 1 Directional Drill

The 85-hp (63 kW) JT2020 packs 20,000 pounds of pulling power and sports the highest ratio of power to size in its class. The well-balanced JT2020 features a one-step anchoring system for quick setup, and a groundbreaking pipeloader that allows column selection from the operator's station.





SPECIFICATIONS

DIMENSIONS

	U.S.	METRIC
Length	207 in	5.26 m
Height	90 in	2.29 m
Width	51.5 in	1.31 m



A



B



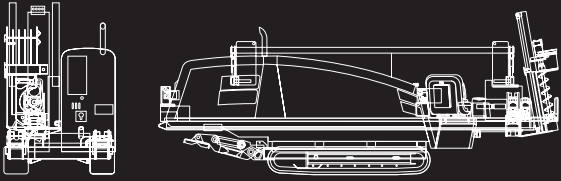
KEY FEATURES

- The highest ratio of power to size enables the unit to do big jobs in tight areas—all at a quiet 103 dBA.
- High fluid flow for longer installations and work in sandy soil conditions.
- Enclosed fluid pump system is easy to winterize and helps keep pump warm during winter operation.
- In hot conditions, the JT2020's powerful Cummins diesel engine keeps running strong throughout the day with the help of an advanced, high-capacity cooling system.
- Minimal maintenance; with no zerks to grease each day, you'll spend more time working and less time servicing the unit.
- Tethered ground drive controller allows the operator to maneuver the unit from a position which provides increased visibility, easier loading/unloading, and easier positioning.
- Rack-and-pinion thrust system provides outstanding power transfer and performance for a wide range of HDD jobs.
- *(Photograph A)* Operator station includes reliable, high-performance gauges and provides excellent visibility of the pipes and pipeloading system.
- *(Photograph B)* Large-capacity pipe lubrication system makes it easy for you to keep contamination out so your drill pipe keeps working for you, bore after bore.

DITCH WITCH JT1220 Mach 1 Directional Drill

A high-performance machine with low-maintenance costs, the compact and extremely quiet JT1220 minimizes operator fatigue with features like cruise control (for simplified drilling and backreaming), high drilling fluid pressure capacity, and a tethered ground drive controller.





SPECIFICATIONS

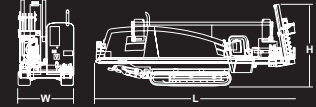
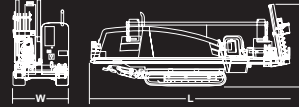
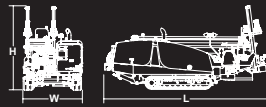
DIMENSIONS

	U.S.	METRIC
Length	188 in	4.78 m
Height	78 in	1.98 m
Width	51.5 in	1.31 m



KEY FEATURES

- Minimal noise output for longer operation in residential or commercial areas.
- *(Photograph A)* Integrated electronic system with guidance control enables the tracker operator to disable power to drilling unit's thrust and rotation.
- Open-top vise wrenches provide excellent visibility of pipe tool joints during pipe makeup and breakout.
- Two-speed carriage significantly decreases cycle time; assisted-makeup feature increases the life of drill pipe joints by automatically matching carriage movement speed with rotation during pipe makeup and breakout.
- *(Photograph B)* Pipe is designed, built, and tested by Ditch Witch® engineers and manufacturing specialists for maximum performance with the JT1220.
- Efficient pipeloading system allows column selection from the operator's station; Mach 1 pipeloader automation further simplifies operation.
- Engine enclosure directs hot engine air away from the operator, simplifies maintenance, and allows operation in residential and other noise-sensitive areas.
- One-step anchoring system provides quick setup.
- Cruise control for drilling and backreaming reduces operator effort.



SPECIFICATIONS

JT3020 MACH 1

JT2020 MACH 1

JT1220 MACH 1

DIMENSIONS	U.S.		METRIC		U.S.	METRIC		U.S.	METRIC	
	OVERALL LENGTH*	221 IN	5.61 M	207 IN		5.26 M	188 IN		4.78 M	
OVERALL WIDTH*	80 IN	2.03 M	51.5 IN	1.31 M	51.5 IN	1.31 M				
OVERALL HEIGHT*	119 IN	3.02 M	90 IN	2.29 M	78 IN	1.98 M				
DRILLING UNIT OPERATING MASS*	22,300 LB	10 120 KG	11,600 LB	5260 KG	9700 LB	4400 KG				
ENTRY ANGLE	10-16°		10-14°		10-14°					
ANGLE OF APPROACH	19°		18°		18°					
ANGLE OF DEPARTURE	18°		18°		18°					
POWER PIPE										
LENGTH, NOMINAL*	118 IN	3 M	120 IN	3 M	120 IN	3 M				
DIAMETER*	2.38 IN	60 MM	2.06 IN	52.3 MM	1.82 IN	46.2 MM				
DIAMETER, TOOL JOINT END*	3 IN	76 MM	2.63 IN	66.8 MM	2.38 IN	60.4 MM				
BEND RADIUS, MINIMUM	175 FT	53 M	130 FT	39.6 M	105 FT	32 M				
WEIGHT, LINED*	90 LB	41 KG	67 LB	30.4 KG	54 LB	24.5 KG				
WEIGHT WITH LARGE BOX (48 PIPE)	5500 LB	2500 KG	N/A		N/A					
WEIGHT WITH SMALL BOX (25 PIPE)	3200 LB	1450 KG	N/A		N/A					
OPERATION										
SPINDLE SPEED, MAXIMUM*	225 RPM		225 RPM		180 RPM					
SPINDLE TORQUE, MAXIMUM*	4000 FT•LB	5420 N•M	2200 FT•LB	2980 N•M	1400 FT•LB	1898 N•M				
CARRIAGE THRUST TRAVEL SPEED*	120 FPM	37 M/MIN	140 FPM	43 M/MIN	155 FPM	47 M/MIN				
CARRIAGE PULLBACK TRAVEL SPEED*	120 FPM	37 M/MIN	140 FPM	43 M/MIN	155 FPM	47 M/MIN				
THRUST FORCE*	24,800 LB	110 KN	17,000 LB	75.6 KN	10,000 LB	44.5 KN				
PULLBACK FORCE*	30,000 LB	134 KN	20,000 LB	89 KN	12,000 LB	53.4 KN				
BORE DIAMETER	4.5 IN	114 MM	4 IN	102 MM	3.5 IN	89 MM				
BACKREAM DIAMETER	SOIL DEPENDENT		SOIL DEPENDENT		SOIL DEPENDENT					
GROUND TRAVEL SPEED, MAXIMUM*										
FORWARD	2.4 MPH	3.9 KM/H	3.2 MPH	5.2 KM/H	2.7 MPH	4.3 KM/H				
REVERSE	2.2 MPH	3.5 KM/H	3.2 MPH	5.2 KM/H	2.7 MPH	4.3 KM/H				
POWER										
ENGINE	CUMMINS QSB4.5		CUMMINS B3.3TAA		CUMMINS B3.3					
FUEL	DIESEL		DIESEL		DIESEL					
COOLING MEDIUM	LIQUID		LIQUID		LIQUID					
INJECTION	DIRECT		DIRECT		DIRECT					
ASPIRATION	TURBOCHARGED & CHARGE AIR COOLED		TURBOCHARGED & CHARGE AIR COOLED		NATURAL					
CYLINDERS	4		4		4					
DISPLACEMENT	275 IN ³	4.5 L	199 IN ³	3.3 L	199 IN ³	3.3 L				
BORE	4.02 IN	102 MM	3.74 IN	95 MM	3.74 IN	95 MM				
STROKE	5.42 IN	138 MM	4.53 IN	115 MM	4.53 IN	115 MM				
MANUFACTURER'S GROSS POWER RATING**	148 HP	110 KW	85 HP	63 KW	60 HP	45 KW				
RATED SPEED	2300 RPM		2600 RPM		2200 RPM					
PEAK GROSS POWER @ 2000 RPM	156 HP	116 KW	N/A		N/A					
EMISSIONS COMPLIANCE	EPA TIER 3	EU STAGE IIIA	EPA TIER 3	EU STAGE IIIA	EPA TIER 2	EU STAGE II				
DRILLING FLUID SYSTEM (ON-BOARD)										
DRILLING FLUID PRESSURE, MAXIMUM *	1500 PSI	103 BAR	1500 PSI	103 BAR	1250 PSI	86 BAR				
DRILLING FLUID FLOW, MAXIMUM *	50 GPM	189 L/MIN	32 GPM	120 L/MIN	15 GPM	57 L/MIN				
FLUID CAPACITIES										
HYDRAULIC RESERVOIR	27 GAL	102 L	19 GAL	72 L	17 GAL	64 L				
FUEL TANK	42 GAL	159 L	30 GAL	114 L	19 GAL	72 L				
BATTERY										
SAE RESERVE CAPACITY RATING	195 MIN		195 MIN		195 MIN					
SAE COLD CRANK RATING @ 0° F (-18° C)	950 AMPS		950 AMPS		950 AMPS					

DITCH WITCH A System For Success

With your Ditch Witch® directional drill you never have to wonder if its support equipment—the electronic guidance systems, fluid-mixing systems, vacuum excavators, and downhole tools—are going to complement the task or complicate it. Every single component of the Ditch Witch trenchless family, from the drill bit to the drill pipe to the drilling rig itself, is designed and manufactured to work together as a system.





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GROUNDBREAKING™ EQUIPMENT FROM THE COMPANY THAT LAUNCHED THE INDUSTRY

COMPACT UTILITY | TRENCHERS | HDD | ELECTRONICS



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Call before you dig.

CERTIFIED QUALITY
MANAGEMENT SYSTEM
ISO 9001:2000

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