

ATLAS COPCO T3W AND T3WDH

Water Well Drilling Rig

www.atlascopco.com/T3W
www.deepholedriller.com

Atlas Copco



IT'S ALL ABOUT DOING MORE FOR LESS

DUAL ENGINE DESIGN

Designed with a separate truck engine and a deck engine to power the drill, the design's main advantage is the increased power transfer efficiency. The deck engine is coupled to the air compressor off one end of the crank shaft and is close-coupled to the hydraulic drive box from the other end. This design boosts fuel economy and has fewer drive components to maintain and repair.

GOOD PEOPLE MAKE GOOD MACHINES GREAT.

The T3W and T3WDH are rigs designed to help the crew work safer and faster with less manual labor. Steps give the helper a better vantage point from which to place the end of the pipe into the slide trough on the pipe rack. The carousel boots are marked to show when the top wrench is lined up with the flats so the driller doesn't have to look up every time he or she uses the wrench. As one T3W driller commented, "It's the small things that add up to make me less tired at the end of the day, and that's a big deal."

SAFETY AROUND THE RIG IS A PRIORITY

The air-operated holding wrench at the table and foot-pedal-activated top wrench are "hands-free." The internal carousel doesn't swing through the work space when a pipe is added or removed. Because the rotary head retracts into the derrick, the hoist line is on the centerline of the hole. Heavy tooling can be safely positioned directly over the hole.



ADAPTIVE PIPE HANDLING A BIG ADVANTAGE

In a clean hole, pipe changes can be made on the bottom of the hole using the carousel or single pipe loader. When mud drilling or air drilling in an unstable formation, pipe can be changed one pipe length off the bottom using the drawworks and a hoist plug. The fast feed and drawworks can be operated simultaneously, speeding up the drilling process. These advantages also apply to coming out of the hole. You can trip with the rotary head or the drawworks. The new 30,000 lb (13,608 kg) single line drawworks and pipe spinner options provide the fastest way out of the hole. For deeper holes, a two-part line setup is available for the drawworks.

TWO WAYS TO SET CASING

Casing can be rotated and pushed or pulled with the top head. The torque limit control allows the head torque to be matched with threaded casing torque specifications. In clean holes, casing can be set with the drawworks. The table swings out and the back half retracts to open up the whole centralizer for large casing and tools.

DERRICK AND FEED SYSTEM

The T3W and T3WDH utilize a single 36 ft 6 in (11m) derrick. This derrick enables conventional air-mud-DHD drilling with 20 ft (6 m) pipe. The derrick can also handle a casing hammer, dual wall pipe (reverse circulation), simultaneous drill and drive with a DHD or driving casing from the top with a DHD. The drills can be set up for any of these methods and still reduce front overhang and front axle weight.

The derrick and feed system incorporates large-diameter, nylon-composite, top and bottom sheaves with large bearings and shafts. This design greatly reduces fatigue on the feed cables and improves mechanical efficiency. The result—longer cable life and reduced fuel consumption to operate the feed system.

FEED CYLINDER DESIGN

The feed cylinders have been redesigned to improve pullback power and fast feed speed. The T3W maximum fast feed speed has increased to 150 fpm (45.5 m/min), getting you in and out of the hole quicker.



ADDITIONAL FEATURES

USING PROVEN TECHNOLOGY TO REDUCE OPERATING COST

When diesel engine manufacturers first used electronic control to optimize the fuel-air mixture, engines became more fuel efficient. Applying this same concept to rig hydraulics makes the T3W and T3WDH more fuel efficient and more productive. We call the concept “on-demand” power.

The most significant efficiency improvement is the use of variable displacement hydraulic pumps and a new hydraulic circuit to create the “on-demand” power system. Inefficient fixed displacement pumps have been replaced by variable displacement pumps on all circuits. They only pump as much fluid as required and only operate when work is being done. When you need power, you immediately get the power you need where

you need it. This “on demand” system increases component life, reduces operating cost and gives the driller more rapid, precise control of drilling functions.

The rig’s engine coolant, compressor oil, and hydraulic fluid all have an optimum operating temperature range. The new cooling system monitors fluid temperatures and operates the cooling fan at the proper speed to maintain optimum fluid temperature. This approach assures proper temperature control (longer component life) and saves fuel by operating the fan at the required speed for the given ambient temperature.

An electronic air regulation system (EARS) continuously monitors compressor volume and pressure output and maintains the required performance. Pressure and volume can be adjusted independent of each other.



General Specifications				T3W	T3WDH
	T3W	T3WDH		T3W	T3WDH
Pullback	40,000 lb (18,144 kg)	70,000 lb (31,751 kg)	Rotary Head		
Pulldown	25,000 lb (11,340 kg) <i>*optional 30,000 lb (13,608 kg) available</i>	30,000 lb (13,608 kg)	Standard	5500 lbf (7458 Nm) at 145 rpm, single-speed rotary head	
Feed System			Optional	5500 lbf (7458 Nm) at 145 rpm, two-speed rotary head (Second Speed) 4000 lbf (5424 Nm) at 195 rpm	
	Single Cylinder, Cable Feed D:d Ratio 28:1, 7/8" (22 mm) cable Drill Feed Rate: 20 fpm (6.1 m/min) Fast Feed Up/Down: 150 fpm (45.7 m/min)	Twin Cylinder, Cable Feed D:d Ratio 28:1, 7/8" (22 mm) cable Drill Feed Rate: 20 fpm (6.1 m/min) Fast Feed Up/Down: 150 fpm (45.7 m/min)	Optional	6250 lbf (8475 Nm) at 134 rpm, single-speed rotary head	
Derrick			Optional	6250 lbf (8475 Nm) at 134 rpm, two-speed rotary head (Second Speed) 4650 lbf (6310 Nm) at 180 rpm	
	Capacity: 45000 lb (20412 kg) Main Cord Length: 36' 6" (11 m) Head Travel: 27' 4" (8330 mm) Width: 36" (914 mm) Depth: 28" (711 mm)	Capacity: 75000 lb (34019 kg) Main Cord Length: 36' 6" (11 m) Head Travel: 27' 4" (8330 mm) Width: 36" (914 mm) Depth: 28" (711 mm)	Optional	8000 lbf (10 848 Nm) at 105 rpm, single-speed rotary head	
Standard Carrier			Optional	8000 lbf (10 848 Nm) at 105 rpm, two-speed rotary head (Second Speed) 5500 lbf (7458 Nm) at 145 rpm	
Standard	Navistar 7600, 6 X 4 Caterpillar C13 Diesel Engine 380 hp (283 kW) at 2100 rpm 21' 2" (6452 mm) wheelbase 68000 lb (30844 kg) GVWR	Navistar Paystar 5600i, 6 X 4 Caterpillar C13 Diesel Engine 380 hp (283 kW) at 2100 rpm 21' 2" (6452 mm) wheelbase 68000 lb (30844 kg) GVWR	Powerpack		
Optional	410 hp, 908LL Transmission	410 hp, 908LL Transmission	Option 1	900 CFM at 350 psi —Caterpillar C15 diesel engine, 475 hp (354 kW) at 1800 rpm IR HR2.5 over-under screw compressor, 900 CRM (425 L/s) flow, direct coupled 120 to 350 psi (8.3 to 24.1 bar), optional in/out compressor disconnect	
Drawworks—Single Line Bare Drum			Option 2	1070 CFM at 350 psi —Caterpillar C15 diesel engine, 575 hp (421 kW) at 1800 rpm IR HR2.5 over-under screw compressor, 1070 CFM (505 L/s) flow with standard in/out box 120 to 350 psi (8.3 to 24.1 bar)	
Standard	18000 lb (8165 kg) 165 fpm (50 m/min)	18000 lb (8165 kg) 165 fpm (50 m/min)	OPTIONS		
Optional	30000 lb (13608 kg) 150 fpm (45 m/min)	30000 lb (13608 kg) 150 fpm (45 m/min)	Mud pumps, high-pressure air-piping, service hoist, water injection, pipe spinner, floating-spindle hub, drop-down axle, DHD lube injection, single-pipe loader, sand reel, 6 X 6 heavy-duty trucks, deck engine starting aid		



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