

WATER WELL DRILL



T4W – THE COMPLETE VALUE PACKAGE

The most compelling reasons to select a T4W are its reliability and drilling performance. The T4W has established an enviable, solid reputation as the waterwell drill rig of choice. It is also the leading rig in maintaining its value. Quite simply, the T4W provides many years of production after the rig has been paid off.

Adding to the T4W value package is the after-sales support provided by Atlas Copco, its branches and distributors. An 80,000 ft² parts distribution center near the factory provides the base for an extensive network of sales and service outlets spanning over 60 countries.

Selecting an Atlas Copco T4W as your next waterwell rig is a low-risk proposition. The T4W defines reliable, and is the high production leader.

WITH THE T4W,
I WAS ABLE TO
BEGIN DRILLING
PRODUCTIVELY
WITHIN JUST A SHORT
TRAINING PERIOD.



T4W



GENERAL SPECIFICATIONS

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	T4W															
Carrier	Standard Chassis – 6 x 4 Custom, 203 in. / 5,156 mm wheelbase Engine – CAT C-13, 380 HP / 283 kW, 50-state engine Optional Chassis – 6 x 6 all-wheel drive 8 x 4 twin steer Polished aluminum wheels, air conditioning															
Derrick	Dimensions: 33 ft. 3 in. x 46 in. x 33 in. / 10.1 m x 1.2 m x 0.8 m															
Feed System	Heavy Duty Chain Pulldown – 30,000 lb. / 13 608 kg Pullback – 50,000 lb. / 22 727 kg Optional Pullback w/regen – 70,000 lb. / 31 751 kg Drill Feed Rate – 11 fpm / 3.4 m/min Fast Feed Rate – Up 110 fpm / 33.3 m/min Fast Feed Rate – Down 70 fpm / 21.3 m/min															
Rotary Head	Standard Worm Gear – 5,983 ft-lb. / 8 814 N-m @ 0-109 rpm Optional Spur Gear – 8,000 ft-lb. / 10 848 N-m @ 0-110 rpm															
Swivel and Piping	Rated for 350 psi / 2 413 kPa operation Swivel I.D. – 2 in. / 5.08 cm Piping I.D. – 2 in. / 5.08 cm															
Jib Hoist/Casing Hoist	Lifting Capacity (standard) – 1,250 lb. / 567 kg Optional – 2,500 lb. / 1 134 kg Line Speed – 70 fpm / 21.3 m/min. 8,000 lb. casing hoist – 80 fpm / 24 m/min.															
Powerpack Selections	<table border="0"> <tr> <td>Compressors*</td> <td>Cummins Engines</td> </tr> <tr> <td>1070/350 – 30.3 cu.m³/min. / 2 413 kPa</td> <td>QSX-15-C – 600 HP / 447 kW @ 1800 rpm</td> </tr> <tr> <td>1250/350 – 35.4 cu.m³/min. / 2 413 kPa</td> <td>QSK-19C – 700 HP / 522 kW @ 1800 rpm</td> </tr> </table> Dimensions and Weights Length, Derrick Down – 34 ft. 11 in. / 10.7 m Height, Derrick Down – 13 ft. 10 in. / 4.2 m Width, Outside Jacks – 8 ft. / 2.4 m Weight, Standard Rig less pipe – 60,500 lb. / 27 762 kg	Compressors*	Cummins Engines	1070/350 – 30.3 cu.m ³ /min. / 2 413 kPa	QSX-15-C – 600 HP / 447 kW @ 1800 rpm	1250/350 – 35.4 cu.m ³ /min. / 2 413 kPa	QSK-19C – 700 HP / 522 kW @ 1800 rpm									
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*All air compressors used on the T4W are manufactured by Ingersoll-Rand and are oil flooded, asymmetrical rotary screw design.

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T4W Water Well Drill



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Atlas Copco

T4W

WATER WELL DRILL

Reliable

1 : the ability of a person or machine to perform and maintain its functions in routine circumstances, as well as hostile or unexpected situations

2 : Atlas Copco T4W Waterwell Rig

WELL-DESERVED REPUTATION FOR RELIABILITY AND HIGH PRODUCTION

Still the leading waterwell rig in its class after 40+ years, the Atlas Copco T4W sets the standard. With over 2,500 rigs built and still working, it has the undisputed reputation for high production rates and a long, trouble-free life. The T4W design has not changed much from its origins, but the components and control systems incorporate today's technology, making it even more productive and reliable.

CUSTOM CARRIER ENHANCES MOBILITY

Strength starts at the core ... a rock-solid frame. Twin 16 in. / 406 mm H-beam rails provide a strong, stable base for the T4W. The carrier is powered by a 380 HP / 283 kW diesel engine so there is plenty of power to move on the highway at legal speeds. Twin rear axles with side-to-side manual lockers provide maximum traction off the road. A standard Jake brake adds control and safety in mountainous terrain. New cab styling and a *soft-ride* front suspension add to the T4W value package.

THE POWER OF PERFORMANCE

Throughout its history, the T4W has used a conservative power factor so the drill performs at peak while maintaining an adequate power reserve.

Today's T4W power pack provides the horsepower to back up its legendary drilling performance. The diesel deck engine, compressor and hydraulic pumps are all mounted on a separate power pack frame. The frame is cushion mounted directly to the main frame of the carrier. This smart design helps maintain critical alignment of power components to assure long life. The carrier and deck engines are 50-state certified for emissions.



The T4W powerpack design is efficient. The compressor directly couples to the engine, assuring alignment and minimum power loss. The hydraulic pump-drive box connects to the other end of the engine allowing for flexibility of power components while maintaining power efficiency.

DESIGNED FOR RELIABILITY

The strength of the T4W's main structural components is why a large number of rigs from the 1970's are still drilling today. The main frame, derrick, table and derrick pivot structure are the strongest in the industry. Think about it ... this strength is not only the reason for T4W longevity; it is the reason for strong drilling performance.

All T4W fabrications are built on engineered fixtures to ensure precise specifications and uniformity. Certified welders complete all the welds, which are meticulously inspected before final assembly.

A BALANCED DRILLING SYSTEM

The answer to sustained drilling performance is having a drill with matched, integrated components. Both 50,000 lb. / 22 700 kg and 70,000 lb. / 31 800 kg versions of the T4W's twin cylinder, chain feed are rated at actual pullback capacity. Fast- and slow-feed functions provide precise control of bit weight and penetration rate. This feed system optimizes performance and helps control drilling cost.



The T4W's two rotary head selections are matched to over-all rig capacity. The single motor worm-gear head is rugged and compact for down-the-hole (DTH/DHD) drilling with air and foam. Its floating spindle absorbs drilling shocks and is easy on threaded connections. The powerful spur-gear head provides more torque and speed for rotary air and mud drilling, as well as DHD drilling. It is the multi-purpose workhorse for deeper or larger diameter holes. Both rotary heads feature torque limit control to pre-set the maximum torque output of the rotary head. For making up tool joints or threading casing together, the driller can torque up to the required specification every time.

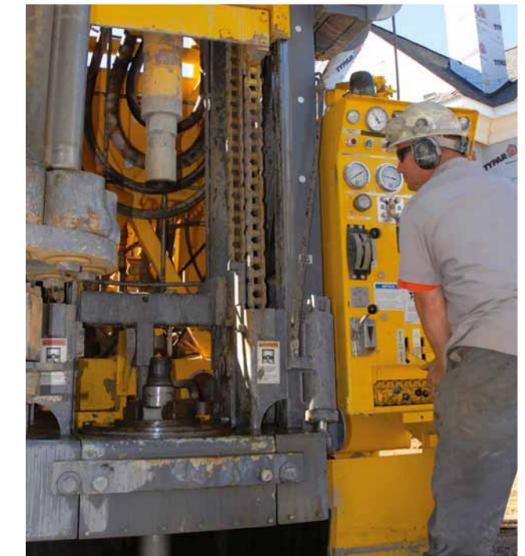
The final element in the T4W's balanced drilling system is the circulation component which includes either a 1070/350 or a 1250/350 screw compressor. This covers the range of 6 in. / 152 mm holes up to 12 in. / 305 mm holes, or larger, with rotary or DHD drilling methods. For larger, deeper or water-filled holes, the T4W can be set up with special piping to add an off-board auxiliary compressor or booster compressor. A range of hydraulic-powered water-injection systems, with and without foam injection, is available. A 7 gal. / 26.5 l or a 60 gal. / 227 l DHD lubrication systems are optional.

The T4W isn't just an air drill rig. Three rig-mounted mud pump packages are available. A high volume centrifugal pump is ideal for larger diameter, shallow holes where water or light mud can be used. For deeper holes requiring more complex mud, there is a rig-mounted 5 in. x 6 in. / 127 mm x 152 mm duplex piston pump or a light-weight, compact 7 1/2 in. x 10 in. / 191 mm x 254 mm duplex piston pump for larger, deeper holes.

FAST, SAFE PIPE / CASING HANDLING

Making money isn't just about drilling penetration rate. The less time spent changing drill pipe and setting casing, the more money goes to the bottom line. Also, the less manual labor required and the safer these operations are, the more cost efficient your rig is.

The T4W uses 4 1/2 in. x 25 ft. / 114 mm x 7.6 m key lock drill pipe with a 2 7/8 IF connection. This drill pipe adds value in several ways. It is controlled by a T4W



pipe-handling tool that secures both ends of the pipe and features a safety lock. A dedicated hydraulic hoist and jib boom lift and position pipe over the loader. When the pipe is placed into the carousel with the pipe-handling tool, the box is secured in a positioning cup at the bottom and is also secured at the top plate. The carousel can hold seven drill pipes or one drill collar and five joints of pipe. The driller swings the carousel in under the rotary head and makes up the top joint. He lifts the pipe a few inches to clear the cup and top plate and swings out the carousel. The pipe is then lowered and connected to the pipe at the table.

Quick, safe casing handling is also a T4W trademark. Atlas Copco can provide a casing handling system that uses the rig's feed and rotation systems. Single pieces of casing are positioned at the table with a hydraulic casing hoist. Threaded and coupled casing is lifted with the rotary head and feed system using an elevator connected to the spindle. This allows the casing to be pushed, pulled and rotated. The rotary head and torque limit control spin the casing together to the correct torque specifications and the feed system lowers the string into the hole. The casing is securely under control during the whole process.

