

AF 130

HYDRAULIC
DRILL RIG



INTERNATIONAL



AF 130

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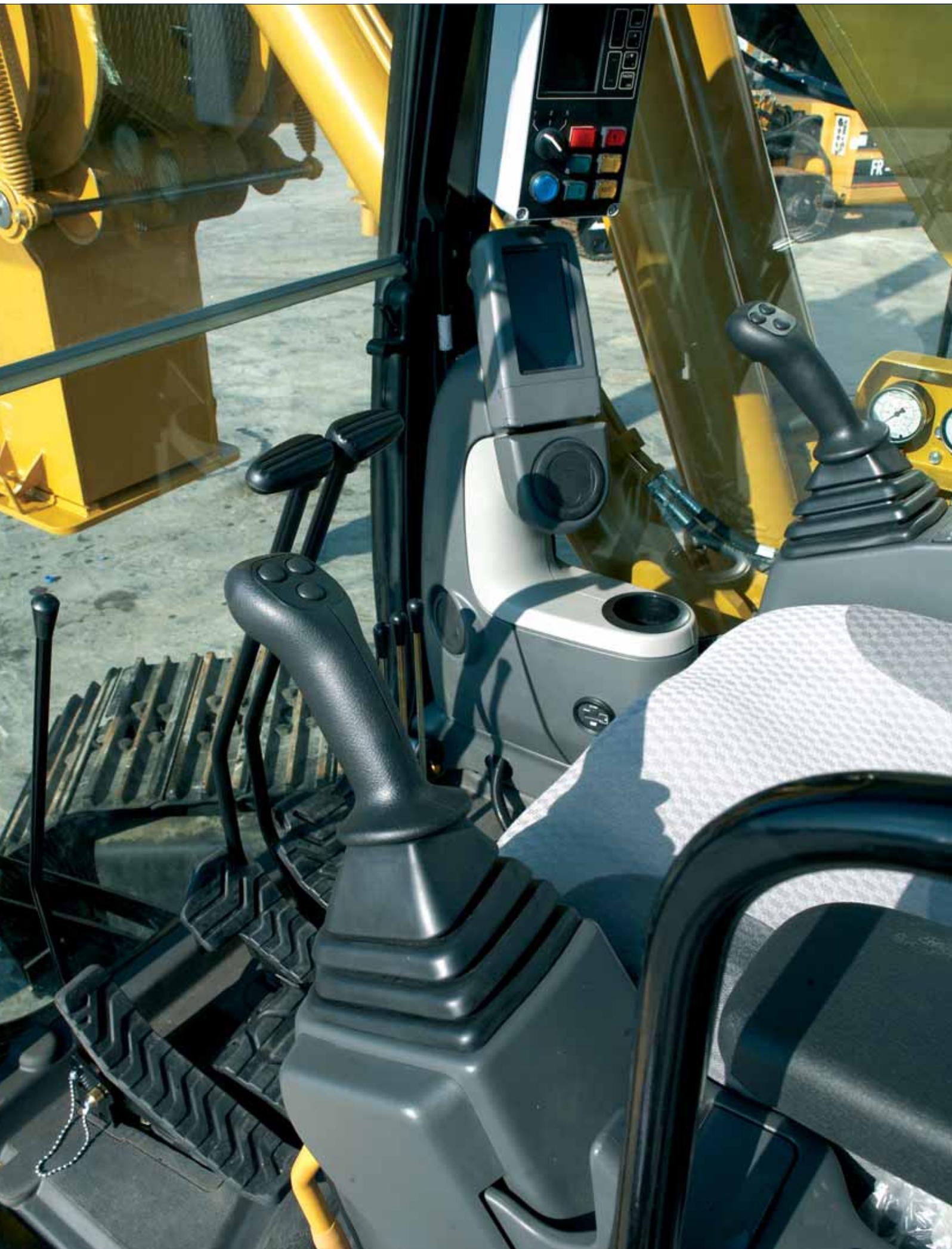


THE PERFECT BLEND
OF TECHNOLOGY
AND PERFORMANCE

The AF 130 is a machine that satisfies the need for high productivity when carrying out piles of medium diameter and depth. It can carry out piles of a diameter of 1500mm and a depth up to 38 m or 47 m but it is almost unbeatable on job sites with piles of a diameter of 800mm or 1000mm and a depth of 20 - 30m.

The machine was designed upon the request of many clients that are interested in high productivity and reliability.

The base is a CAT 324DLN capable of offering great stability even with fixed undercarriage, considerable power and exceptional speed in the opening / closing and movement operations. The high-quality of the material and components used in manufacturing the mast, rotary and winches, together with the use of a base and undercarriage of proven quality, guarantee great reliability and great value for decades to come.



OPERATOR STATION

The operator station of the AF 130 is a particular example of comfort and rationality. Besides the comfort available on the CAT base (adjustable seat, air conditioning, etc) all the controls are properly placed so as to give the operator maximum control on the machine operations. The main controls, such as main winch, swing, rotary and crowd system are operated by means of two main joysticks. The drilling depth and pile verticality control systems are foreseen in the cabin.



BASE

The AF 130 uses a CAT 324 DLN base. Caterpillar installs a CAT C7 type motor on this base which is set to supply a power of 174 HP (130 KW) at 1800 rpm. The hydraulic system is made in order to exploit the power of the diesel to the most and in order to guarantee maximum performance.

UNDERCARRIAGE

The AF 130 has the standard original undercarriage of the CAT 324 DLN. Its width is 2990mm with a length of 4630mm and with its 600mm wide shoes, we can guarantee great stability in any type of ground. It has considerable traction force, which allows easy movement even in the most difficult job sites (maximum superable gradient 75%).





ARTICULATION

All the articulations of the AF 130 use case hardened pins and bushings of large dimensions which guarantee maximum precision in time. This kind of articulation offers the following advantages:

- possibility of moving the working axis accurately without losing the verticality of the mast
- possibility of working in a large range (essential when working with casing oscillator)
- correct anchoring of the mast by means of a hinge and tilting cylinder anchored at the top
- correct division of the machine weight in transportation configuration

ROTARY

The rotary of the AF 130 is extremely reliable. It has been designed in order to guarantee a very compact, efficient and powerful rotary. IMT has developed a rotary with a single transmission group. The transmission group is made up of a hydraulic motor and a new power shift purposely studied and designed to obtain maximum performance. The tooth crown and the pinion are always in oil bath supported by two large bearings. The rotary is capable of transmitting an effective torque

of 117 kNm to the tool. The working speeds vary from 8,3 to 27 rpm. The unloading speed is 50 – 120 rpm. During the drilling phase, the rotary has the entire power of the diesel at its complete disposal. The rotary is equipped with a sliding adapter that is essential to absorb the considerable shock connected to the high speed of the main winch.







KELLY BAR

The standard kelly bar associated with the machine is a J-type, 4-element kelly bar with a square joint of 130x130mm and a depth of 38m. It is also possible to supply a 5-element kelly bar with a depth of 47m or a kelly bar that is slightly shorter than the standard kelly bar (4/33) that is useful when utilizing casings or an IMT full interlocking kelly bar (to use this type of kelly bar it is necessary to replace the sliding adapter of the rotary).

MAST

It is built with high-resistance material, capable of supporting considerable stress with reduced weights (and therefore inertial force). The verticalization of the mast is controlled by an electronic level located in the cabin.

The head of the mast has a "Y" shape for the pulleys of the main and secondary winches in order to position steel cages without moving the parallelogram.

The particular conformation of the mast, made up of two moveable parts, allows you to transport the Kelly bar with the machine, by means of a hydraulic cylinder, thereby reducing the time it takes for the opening.



WINCHES

The winches are positioned in the lower part of the mast, in front of the cabin, so that the operator can constantly check the proper operation.

Thanks to the fact that the cable moves parallelly to the mast, flexion is not created on the upper part of the mast and the operating life of the cable is therefore much longer.

During the lifting and lowering phase, the main winch has the entire power of the diesel at its disposal; this gives the machine considerable speed and therefore maximum productivity. It has a hydraulic "down the hole" system which prevents the unwinding of the cable when the tool reaches the ground.

Another system, call "free flow", allows the cable to advance in the drilling phase when the rotary advances.

The main winch has a maximum pullback of 120 kN and a speed of 90m/min. and the auxiliary winch has a maximum pulling force of 60 kN and a speed of 90m/min.



CROWD SYSTEM

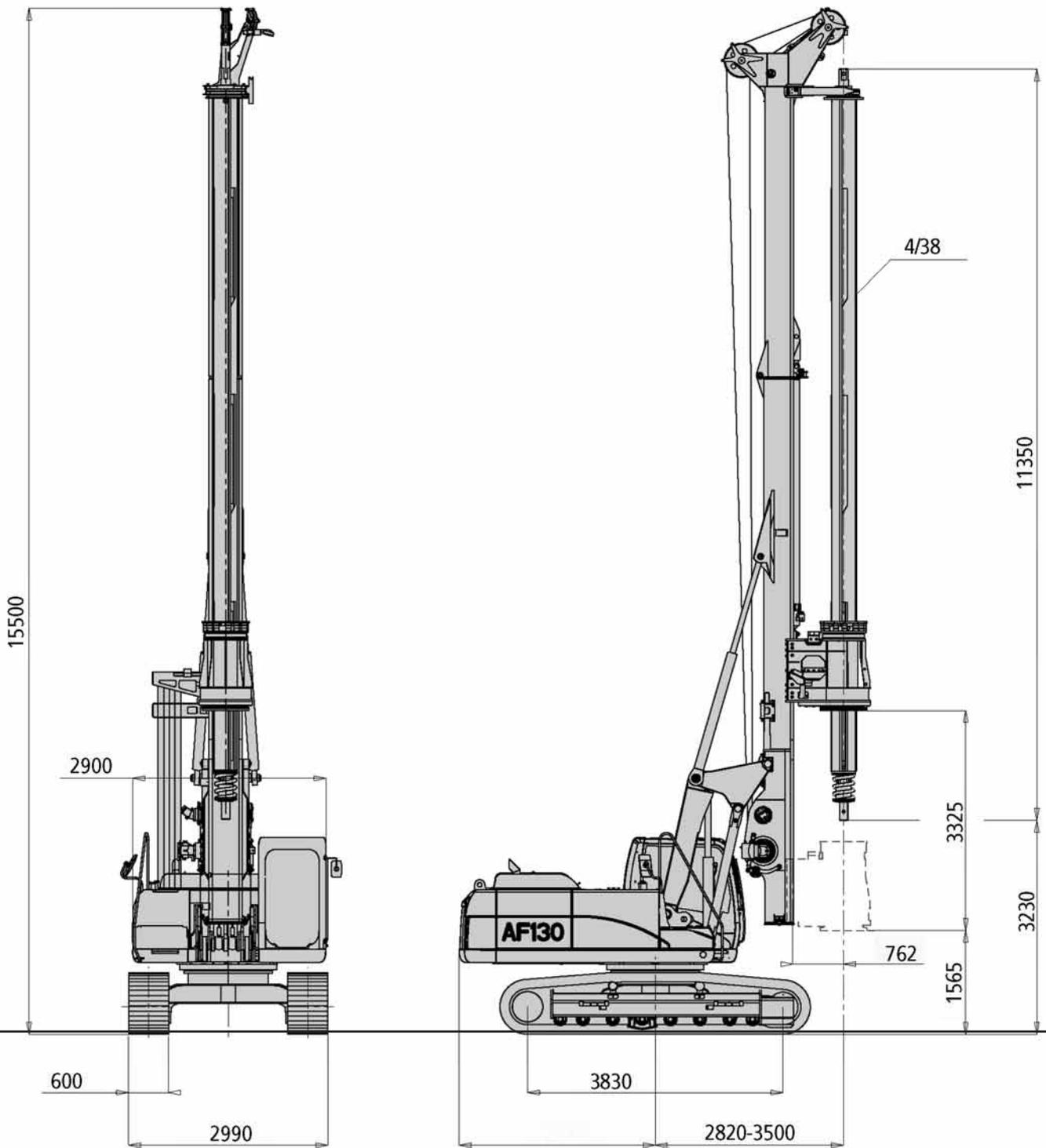
The crowd system of the AF 130, located on the front part of the mast, allows the vertical translation of the rotary.

Thanks to the crowd system, located on the rotary carrier slide, we are capable of transferring a push of 100 kN on the tool. The use of the crowd system is also exploited when carrying out piles with the driving and extraction of the cylinder. In fact, we are capable of guaranteeing an extraction force of 165 kN. The stroke is 3325 mm.



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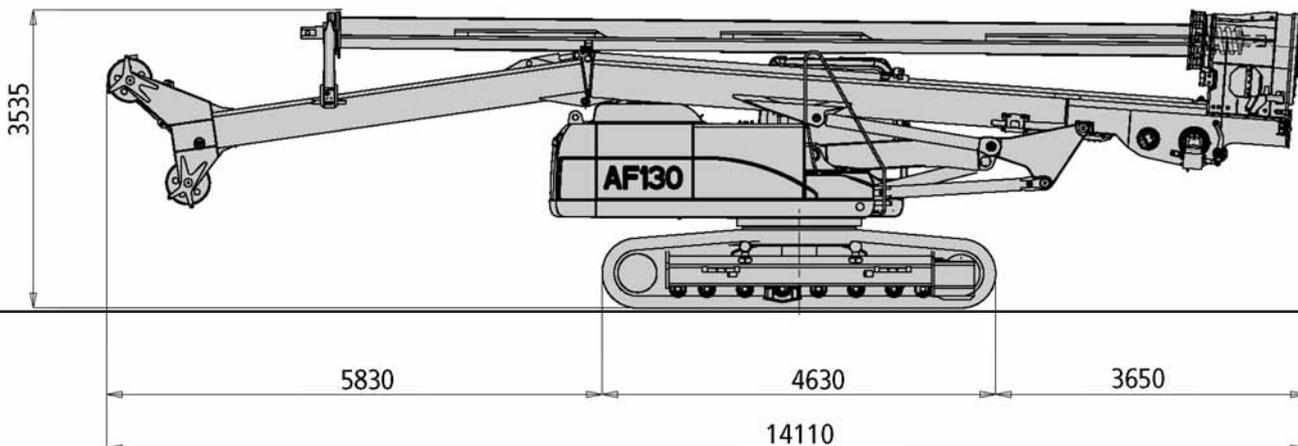
TECHNICAL DATA





Base		CAT 324 DLN		
Undercarriage length / width / shoe	mm	4630/2990/600	in	182/118/23,6
Engine type		CAT C7		
Power		130 KW (174 HP) @ 1800 rpm		130 KW (174 HP) @ 1800 rpm
Rotary				
Installed torque	kNm	117	lbf ft	86295
Working speed	rpm	8.3 - 27	rpm	8.3 - 27
Discharge speed	rpm	50 - 120	rpm	50 - 120
Winches				
Main winch pull force	kN	120	lbf	26980
Main winch speed	m/min	90	ft/min	295
Main winch Cable diameter	mm	22	in	/
Auxiliary winch pull force	kN	60	lbf	13490
Auxiliary winch Speed	m/min	90	ft/min	295
Auxiliary winch Cable diameter	mm	15	in	/
Crowd system				
Kelly crowd push	kN	100	lbf	22485
Kelly crowd pull	kN	165	lbf	37095
Stroke	mm	3325	in	131
Mast				
Mast raking forward		5°		5°
Mast side raking		±5°		±5°
Mast raking backwards		15°		15°
Pile max. diameter	mm	1500	in	60
Kelly bar				
Standard		3/28 - 4/38		3/28 - 4/38
Options available		4/33 - 5/47		4/33 - 5/47
Operating Weight w/standard kelly bar	t (metric)	33	lbs	72755

All technical data are indicatives and subject to change without notice



WORLDWIDE SALES AND ASSISTANCE NETWORK



IMT dealers, a global network at your service

IMT, like very few other companies in the field, has a global commercial and assistance network which is present in over 30 countries. From any part of the world, IMT clients know that they can always count on fast and efficient service.

Furthermore, since 1997 IMT drill rigs are sold and supported on the American market by Kelly Tractor, one of the biggest Caterpillar dealers in the world.

This is an important goal for the further reinforcement of the presence of IMT in international markets.



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