

# MCX Series

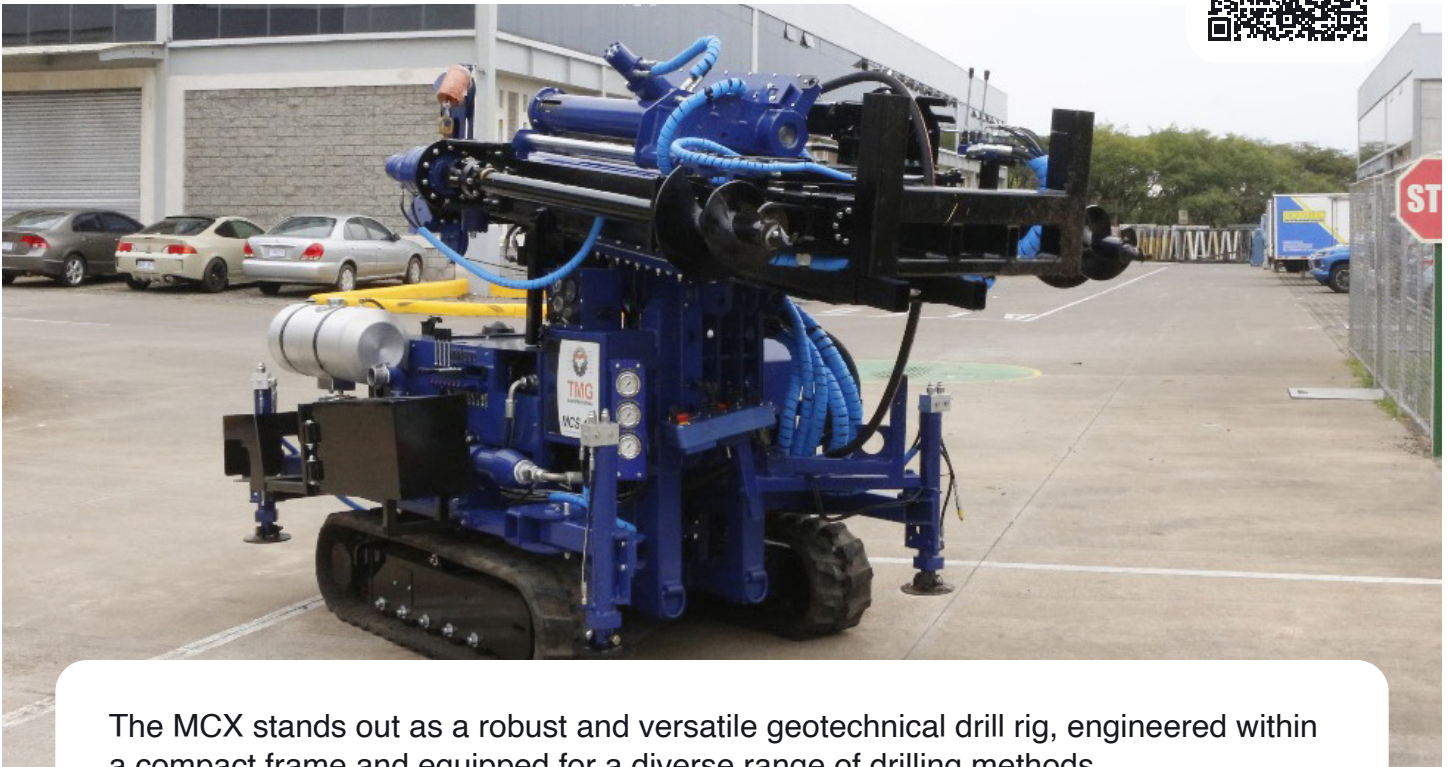
*Compact Geotechnical Rig for SPT, CPTu & DMT, Rotary & Auger*





# MCX Series

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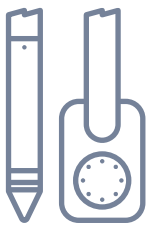


The MCX stands out as a robust and versatile geotechnical drill rig, engineered within a compact frame and equipped for a diverse range of drilling methods.

This rig comes with a built-in SPT autohammer, alongside a rotary auger drill head with 3,500 ft lbs of torque, enabling the use of solid flight or hollow stem augers. The MCX also comes with a high-speed winch boasting 1,100 lbs of lift force that ensures smooth operation even in challenging conditions.

The fully extendable dual anchoring mast outfitted with 3500 ft lb anchor motors, offers a selection of anchor options such as 12" helical anchors, 14" helical anchors, and 2" solid flight auger anchors, the rig also supports other auger configurations for different soil types. Furthermore, its dual hydraulic drive cylinders, delivering 20 tons of push down (crowd force) and 57,000 lbs of extraction force, facilitates various testing methods including CPT, DMT, Shelby tube testing, and direct push sampling.

Additionally rods, bits, laptop and other necessary accessories are not included.



**CPTu & DMT  
TESTING**



**SPT  
SAMPLING**



**AUGER  
DRILLING**



**TRICONE  
ROCK DRILL**



**MUD  
ROTARY DRILL**



**DIRECT  
PUSH**

# MCX Series

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## Engine

### MCX-23

- 23 hp (17 kW), gasoline engine
- Air cooled
- 12 V electric start
- Emergency stop button
- Rpm gauge

### MCX-38

- 38 hp (28 kW), gasoline engine
- Air cooled
- 12 V electric start
- Emergency stop button
- Rpm gauge

## Hydraulic System

### MCX-23

- 18 gpm (68 lpm) max hyd flow
- Max 3000 psi (206 bar)
- 2-stage gear pump
- Feather touch controls
- Oil cooler

### MCX-38

- 22 gpm (83 lpm) max hyd flow
- Max 3000 psi (206 bar)
- 2-stage gear pump
- Feather touch controls
- Oil cooler

## Track System

- Stationary track system (300 mm wide 1727 mm long - 11.8" wide 68" long)
- NACHI 3B track motor with automatic brake system
- Built in grease filled tensioning arm and spring

## Mast

- Dual-cylinder mast for CPT and DMT with anchoring drive head
- Tilt position for traveling
- 5 ft (1.5 m) stroke
- 57,726 lbs (26,184 kg) pull down force (also available in 10 tons)
- 43,320 lbs (19,649 kg) pull up force

## CPT and DMT Push Head

- Collet clamp for CPT and DMT
- Top down CPT and DMT push system
- CPT cone and DMT Flat blade sold separately

## Leveling Outriggers

- 4 hydraulic level outriggers with independent controls

## Accessories

- Auxiliary power inverter
- CPT rod rack

## Drill Head - 2-Speed MRA

- Gear 1: Speed - 45 rpm / Torque - 3500 ft lbs (4745 Nm)
- Gear 2: Speed - 375 rpm / Torque - 400 ft lbs (542 Nm)

## Fuel Tank

### MCX-23

- 10 gallon (37 liters) fuel tank with fuel sending sensor

### MCX-38

- 16 gallon (60 liters) fuel tank with fuel sending sensor

## Hydraulic Oil Tank

- 20 gallon (75 liters) hydraulic oil tank with built in site level glass

## TMG/ENA CPTu Equipment (Sold separately)

- CPT cone (10cm or 15cm) x 2
- Data acquisition system x 1
- Data acquisition software 1
- 30 meters CPT cable x 1
- Conical tip for cone x 2
- Friction sleeve x 2
- Complete set for de-airing filters including stainless-steel funnel x 1
- Pore pressure filters x 50
- Silicon oil (1 liter) x 5
- Set of o-rings for cone x 2
- Quad-rings for cone x 10
- CPT rods (1.44 od x 1 m long) x 30
- Friction reducer 4 cams x 1
- Friction reducer ring x 1
- Seismic option and other upgrades available

## DMT Equipment (Sold separately)

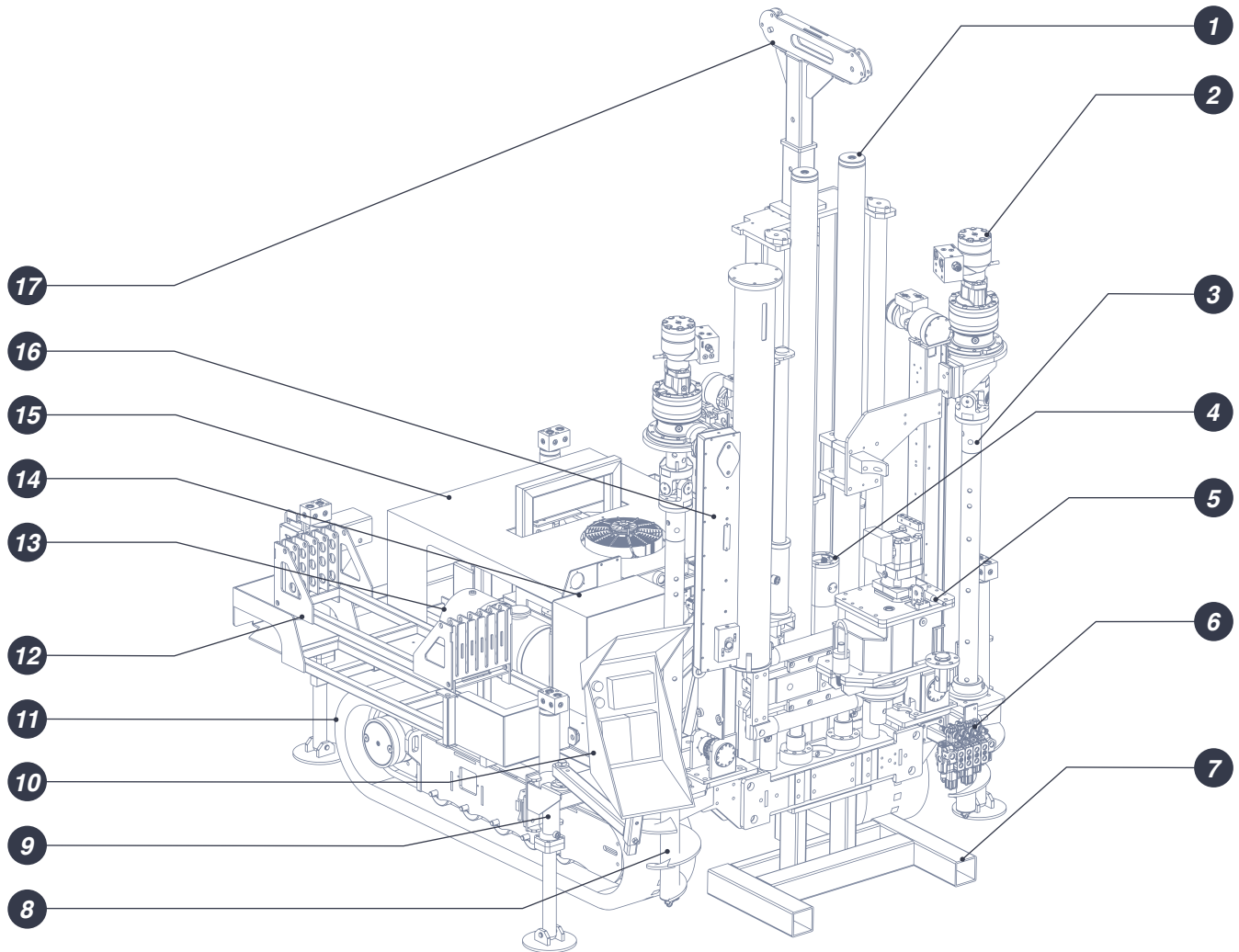
- High strength DMT blades x 2
- Control unit integrating automatic acquisition for DMT readings x 1
- 102 meters of pneumatic-electrical cables (18m NE, 25 m NE, 25 m E, 34 m NE) x 1
- Membranes for DMT blade x 2
- Calibration equipment (syringe and short calibration cable) x 1
- Auxiliary components (tool box, adaptors, spare parts and consumable items) x 1
- Lower adaptors for connecting DMT blade to CPT rods x 2
- Remote training included x 1

## Options

- Wireless control for driving operations
- Multiple anchoring options available
- 180 lb Texas DOT Autohammer
- Safety gate
- Piston water/mud pump
- Moyno water/mud pump

# MCX Series

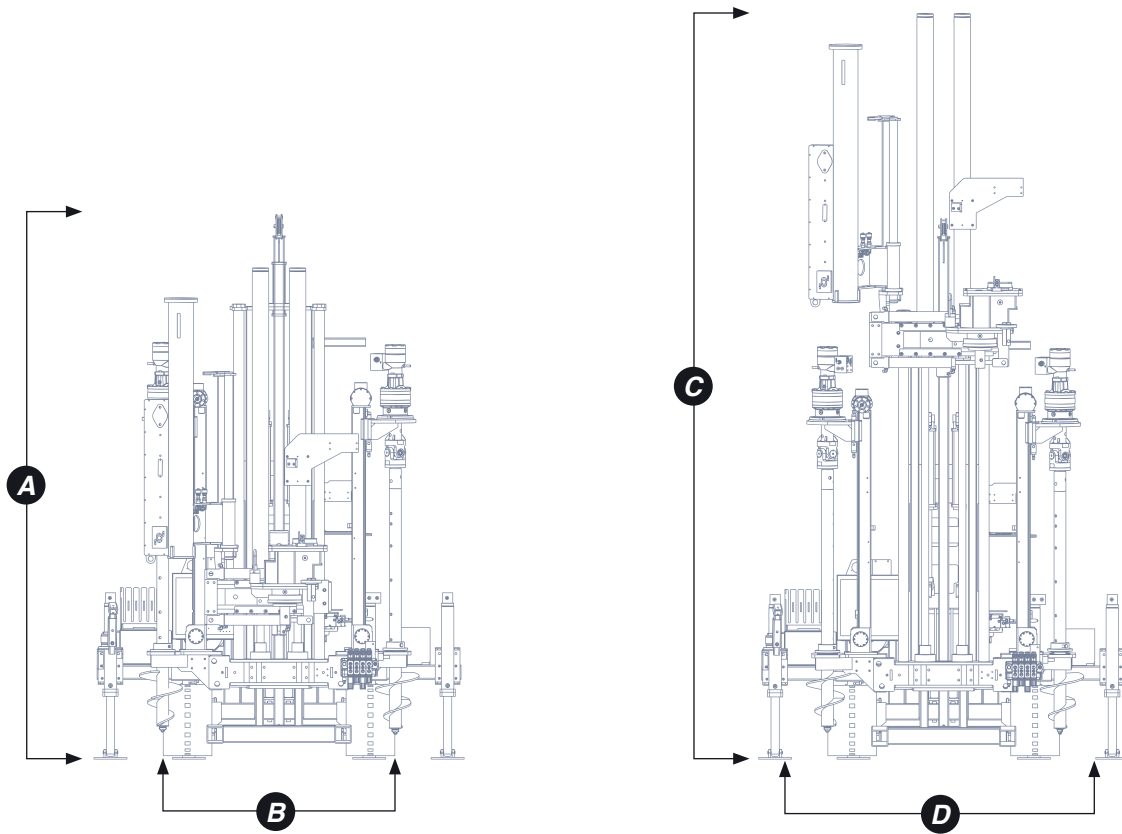
Compact Geotechnical Rig for SPT, CPTu & DMT, Rotary & Auger



- |  |                                  |
|--|----------------------------------|
| 1. Push cylinder (20 ton)                            | 10. Control box                  |
| 2. Anchor motor (left / right)                       | 11. Rubber tracks (left / right) |
| 3. Anchors (left / right)                            | 12. Rod rack (CPT & SPT rods)    |
| 4. CPT push/pull clamp                               | 13. Fuel tank                    |
| 5. Drill head  | 14. Electrical box               |
| 6. Anchor valves                                     | 15. Engine compartment           |
| 7. Mast foot   | 16. SPT Autohammer               |
| 8. Tapered or straight helical anchor (left / right) | 17. SPT Tower                    |
| 9. Outriggers (2x front / 2x rear)                   |                                  |

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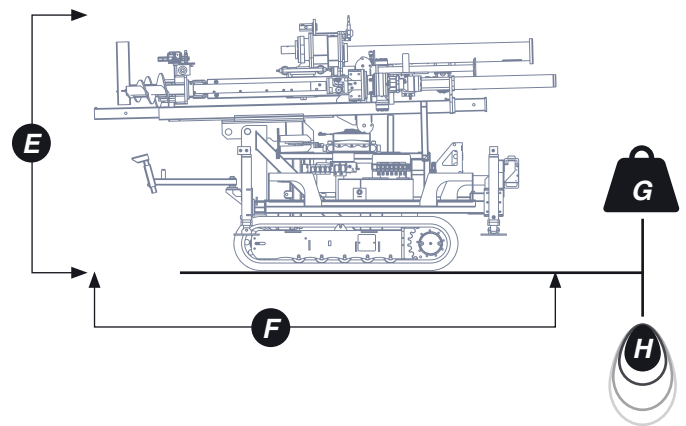
Compact Geotechnical Rig for SPT, CPTu & DMT, Rotary & Auger



A	B	C
HEIGHT (CYLINDERS RETRACTED)	BASE WIDTH (FROM TRACK TO TRACK)	HEIGHT (CYLINDERS EXTENDED)
132" (11') - 335 cm	56" (4.6') - 142 cm	181" (15') - 460 cm

D	E	F
FRAME WIDTH	HEIGHT (MAST TILTED)	LENGTH (MAST TILTED)
75" (6.25') - 190 cm	75" (6.25') - 190 cm	128" (10.6') - 325 cm

G	H
WEIGHT (APPROXIMATE)	GROUND PRESSURE (APPROXIMATE)
6600 lbs - 2993 kg	26,2 psi



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Compact Geotechnical Rig for SPT, CPTu & DMT, Rotary & Auger

Specifications		MCX-23			MCX-38			
Drilling Style	Wireline core drilling	✗			✗			
	Auger drilling	✓			✓			
	Mud rotary drilling	✗			✓			
	Tricone rock drilling (requires mud pump)	✓			✓			
	DTH (Down the hole hammer) (requires air source)	✓			✓			
	SPT	✓			✓			
	CPT and DMT (Marchetti)	✓			✓			
	Direct push sampling	✓			✓			
Depth Capacity	Wireline core drilling - feet (meters)	NQ N/A	HQ N/A	PQ N/A	NQ N/A	HQ N/A	PQ N/A	
	Auger (depends on auger and soils) - feet (meters)	80-100 ft (24-30 m)			90-200 ft (30-70 m)			
Engine	Engine power - hp (kw)	23 hp (17 kw)			38 hp (28 kw)			
	Fuel	Gasoline			Gasoline			
	Tier 3-4 (only for Diesel engines)	N/A			N/A			
	Cooling system	Air			Air			
	Fuel tank capacity - US gallons (liters)	10 gal (37 L)			16 gal (60 L)			
	Mast	Mast stroke - Standard - inches (centimeters)	72 in (182 cm)			72 in (182 cm)		
	Mast stroke - Extended - inches (centimeters)	N/A			N/A			
	Feed pull up force - pounds (kilograms)	57,726 lbs (26,184 kg)			57,726 lbs (26,184 kg)			
	Feed pull down force - pounds (kilograms)	43,320 lbs (19,649 kg)			43,320 lbs (19,649 kg)			
Drillheads	AGR-400 (max 150 rpm, max 3500 lb/ft torque) - 2 speeds	✓			✓			
	MRA-400 <i>std</i> (max 375 rpm, max 3500 lb/ft torque) - 2 speeds	✓			✓			
	YMT-500 (max 230 rpm, max 915 lb/ft torque) - 1 speeds	✓			✓			
	SA3 (max 21 rpm, max 3500 lb/ft torque) - 1 speeds	✓			✓			
	SA5 (max 16 rpm, max 5100 lb/ft torque) - 1 speeds	✓			✓			
Tracks System	Track carrier motor (2B, 3B, 4B)	2B ✗	3B ✓	4B ✗	2B ✗	3B ✓	4B ✗	
	Track rubber pad width - inches (centimeters)	N/A	11.8 in (29.9 cm)	N/A	N/A	11.8 in (29.9 cm)	N/A	
	Track contact area - inches <sup>2</sup> (centimeters <sup>2</sup> )	N/A	630 in <sup>2</sup> (4064 cm <sup>2</sup> )	N/A	N/A	630 in <sup>2</sup> (4064 cm <sup>2</sup> )	N/A	
	Ground pressure - psi (bar)	N/A	25.8 psi (1.7 bar)	N/A	N/A	26.2 psi (1.8 bar)	N/A	
	Track travelling speed - mph (kph)	N/A	2-4 mph (3-6 km/h)	N/A	N/A	2-4 mph (3-6 km/h)	N/A	
Hyd System	System pressure - psi (bar)	3000 psi (206 bar)			3000 psi (206 bar)			
	Hydraulic flow - Gallons per minute (liters per minute)	18 gpm (68 lpm)			22 gpm (83 lpm)			
	Hydraulic oil tank capacity - US gallons (liters)	20 gal (75 L)			20 gal (75 L)			
Winches	Main Winch (A44 or A11)	A44 ✗		A11		A44 ✗		A11
	Main winch force - pounds (kilograms)	N/A		1100 lbs (498 kg)		N/A		1100 lbs (498 kg)
	Main winch line speed - ft/s (m/s)	N/A		N/A		N/A		N/A
	Wireline winch (A11)	✗			✗			
	Wireline winch force - pounds (kilograms)	N/A			N/A			
	Wireline winch line speed - ft/s (m/s)	N/A			N/A			
Water Pump	Moyno pump size (3L4, 3L6, 3L8) (upgrade option)	3L4 ✗	3L6 ✗	3L8 ✗	3L4 ✓	3L6 ✓	3L8 ✗	
	Moyno pump flow - Gallons per minute (liters per minute)	N/A	N/A	N/A	18 gpm (68 lpm)	47 gpm (177 lpm)	N/A	
	Moyno pump pressure - psi (bar)	N/A	N/A	N/A	225	225	N/A	
	Piston pump (optional)	✗			✗			
Body	Total machine weight - pounds (kilograms)	6500 lbs (2948 kg)			6600 lbs (2990 kg)			
	Wired remote <i>std</i>	✓			✓			
	Remote radio control (upgrade option)	✓			✓			
	Safety gate (upgrade option)	✓			✓			
	Mounting option (tracks <i>std</i> , truck, trailer)	Tracks ✓	Truck ✓	Trailer ✓	Tracks ✓	Truck ✓	Trailer ✓	
SPT Hammer	Autohammer (140lb <i>std</i> ) or (Texas DOT, 180lb)	140lb ✓		180lb ✓		140lb ✓		180lb ✓
	Manual hammer + capstan (140lb) or (Texas DOT, 180lb)	140lb ✗		180lb ✗		140lb ✗		180lb ✗

\* *std*: for standard equipment



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Drill Heads	Gear 1	Gear 2	Gear 3	Gear 4
ML-500	Speed - 90 rpm Torque - 4580 ft lbs (6209 Nm)	Speed - 181 rpm Torque - 2290 ft lbs (3104 Nm)	Speed - 361 rpm Torque - 1145 ft lbs (1552 Nm)	Speed - 723 rpm Torque - 573 ft lbs (776 Nm)
MS-500	Speed - 482 rpm Torque - 573 ft lbs (776 Nm)	Speed - 241 rpm Torque - 1145 ft lbs (1552 Nm)	Speed - 120 rpm Torque - 2290 ft lbs (3104 Nm)	Speed - 60 rpm Torque - 4580 ft lbs (6209 Nm)
AGR-400	Speed - 45 rpm Torque - 3500 ft lbs (4745 Nm)	Speed - 150 rpm Torque - 1100 ft lbs (1491 Nm)		
MRA-400	Speed - 45 rpm Torque - 3500 ft lbs (4745 Nm)	Speed - 375 rpm Torque - 400 ft lbs (542 Nm)		
YMT-500	Speed - 230 rpm Torque - 915 ft lbs (1240 Nm)			
SA3	Speed - 21 rpm Torque - 3500 ft lbs (4745 Nm)			
SA5	Speed - 16 rpm Torque - 5100 ft lbs (6915 Nm)			

The MCX is a versatile geotechnical drill rig equipped with a standard MRA 2-speed drill head. At TMG, we understand the importance of meeting specific customer needs, which is why we provide a range of customizable options. Our extensive selection of rotary drill heads allows for a broad spectrum of applications, ensuring that your company's unique requirements are met.

While these variations may affect the rig's depth capacity, we offer expert pre-sales advice to help you maximize the performance of your machine.



SA3



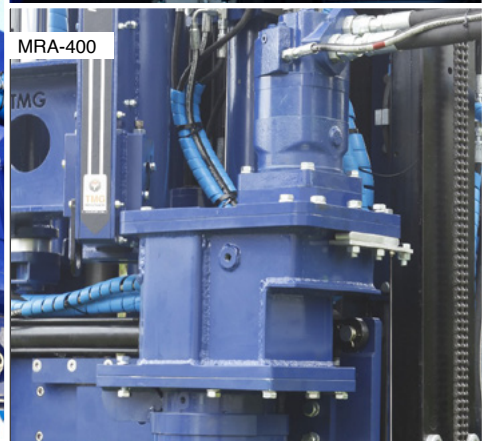
SA5



MS-500



ML-500



MRA-400



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# Our locations

*Visit us, we will be happy to welcome you.*

## Corporate headquarters



Address: 5517 W. Sligh Ave, Suite 100. Tampa, FL 33634

Phone: (813) 464-2299

Toll-Free: 1-888-508-RIGS (7447)

Email: [info@tmgmfg.com](mailto:info@tmgmfg.com)

Website: [www.tmgmfg.com](http://www.tmgmfg.com)

## Latin America Branch



Address: Ofibodegas Milano B16, Alajuela, Costa Rica

Phone: (506) 4001-5984

Email: [info@tmgdrill.com](mailto:info@tmgdrill.com)

Website: [www.tmgdrill.com](http://www.tmgdrill.com)

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