Drilling Services
Environmental - Geotechnical
Ground Investigation Services
Comacchio GEO205 Rotary/Percussive Rig

The ultimate multi-purpose Environmental & Geotechnical Site Investigation rig.

The Comacchio GEO205 rotary drilling rigs are capable of carrying out numerous drilling techniques, whilst still being light weight and compact, thus making them very versatile, cost effective rigs. The Comacchio rigs are powered by a silenced diesel engine fitted with a spark arrester and chalwyn valve.

The GEO205 is transported to site via a tri-axle plant trailer and backed up by a support van carrying all consumables and ancillary drilling equipment, the GEO205 is also capable of drilling under forecourt canopies, standing lower than the canopy standard of 4m (when requested). The rigs have a powerful impact hammer mounted to the side of the main drill head, this is used to advance windowless sample barrels through soft substrata to retrieve high quality samples. Upon encountering harder geology the rigs have several solutions to offer including, hollow or solid stem augering, open hole or rotary coring.

In compliance with all HSE and client requirements all of our rotary drilling rigs are fully guarded, giving ultimate protection to all drillers and public.

Rig Dimensions (when working)
- **Width:** 1.15m  
- **Length:** 3.80m  
- **Height:** 4.60m (full height) 4.00m/3.80m (reduced height/without winch) 2.60m (short mast rig)
- **Weight:** 2.70 tonne
- **Rig Feed:** 2.5 tonne  
- **Rig Pull Back:** 2.5 tonne  
- **Engine:** 40hp

**Dynamic Windowless Sampling**

Windowless sampling barrels between 86mm and 146mm diameter containing plastic liners to retain soil samples. Liners are removed from sample barrels after drilling. The use of a plastic liner allows for excellent presentation of high quality samples.

**In-situ Geotechnical Testing** (All hammers calibrated annually)

SPT, DPT and undisturbed sampling (100mm diameter U100 & 70mm diameter U70) can be carried out during the drilling of boreholes.

**Hollow/Solid Stem Augering** (Fully guarded)

The rotary drive heads on our rigs can be set to a low speed high torque setting to allow for both hollow and solid stem augering in 6” & 8” diameters to depths of 15m, in the case of hollow stem augering we can also advance windowless sampling barrels through them to allow for soil samples to be taken at any stage of the location.

**Open Hole Drilling - Drag Bits / Rock Rollers / Claw Bits / PCD Bits / DTH Hammers** (Fully guarded)

Down the hole hammer (DTHH), tri-cone rock roller, PCD and drag bits can be used for rotary open hole drilling. DTHH is used with air flush for open hole drilling in rock and hard strata. Tri-cone, PCD and drag bits can be operated with air or water flush. Open boreholes can be formed to depths of 60m.

**Rotary Coring** (Fully guarded)

Thin wall double tube core barrels incorporating a plastic liner are used to retrieve cores up to 116mm diameter. The rigs can use water or air flush as required. The ability of our rigs to soil sample and rotary core allows for borehole progression in most ground conditions.
Comacchio GEO305 Rotary/Percussive Rigs

The GEO305 High Torque multi-purpose rig - Large in power, small in size.

The Comacchio GEO305 rig, weighing in at 4.50t is transported to site by adp's own 26t DAF beavertail truck and supported by an Iveco 7t van containing all the drilling equipment and site specific materials.

With the capability of hollow stem augering and dynamic sampling to 25m, rotary coring and open hole drilling to depths of up to 120m and numerous geotechnical and environmental tests available, the Comacchio GEO305 is the answer to all your problems.

The Comacchio's "slide-o-matic" head allows the transition between the high torque, high speed rotary head and the high power hydraulic impact hammer in a matter of seconds - meaning borehole progression, sampling and tests in any geology! In compliance with all HSE and client requirements all of our rotary drilling rigs are fully guarded, giving ultimate protection to all drillers and public.

The rigs small footprint, integral mud pump and high torque head make it ideally suited to a variety of applications.

**GEO305 Rig Dimensions** (when working)

- **Width:** 1.50m  
- **Length:** 4.00m  
- **Height:** 5.00m or 4.5m (reduced height 4.10m)  
- **Weight:** 4.50 tonne

**Rig Feed:** 3.5 tonne  
**Rig Pull Back:** 5.00 tonne  
**Engine:** 75hp

**Dynamic Windowless Sampling**

Windowless sampling barrels between 86mm and 146mm diameter containing plastic liners to retain soil samples. Liners are removed from sample barrels after drilling. The use of a plastic liner allows for excellent presentation of high quality samples.

**In-situ Geotechnical Testing** (All hammers calibrated annually)

SPT, DPT and undisturbed sampling (100mm diameter U100 & 70mm diameter U70) can be carried out during the drilling of boreholes.

**Hollow/Solid Stem Augering** (Fully guarded)

The rotary drive heads on our rigs can be set to a low speed high torque setting to allow for both hollow and solid stem augering in 6", 8", 10" & 12" diameters to depths of 25m, in the case of hollow stem augering we can also advance windowless sampling barrels through them to allow for soil samples to be taken at any stage of the location.

**Open Hole Drilling - Drag Bits / Rock Rollers / Claw Bits / PCD Bits / DTH Hammers** (Fully guarded)

Down the hole hammer (DTHH), tri-cone rock roller, PCD and drag bits can be used for rotary open hole drilling. DTHH is used with air flush for open hole drilling in rock and hard strata. Tri-cone, PCD and drag bits can be operated with air or water flush. Open boreholes can be formed to depths of 120m.

**Rotary Coring** (Fully guarded)

Thin wall double tube core barrels incorporating a plastic liner are used to retrieve cores up to 123mm diameter. The rigs can use water or air flush as required. The ability of our rigs to soil sample and rotary core allows for borehole progression in most ground conditions.
Comacchio MC405 Rotary/Percussive Drilling Rig

The MC405 is compact yet powerful, perfect for SI or Open Holing.

The MC405 is transported to site with our in house DAF CF 75 26t beavertail plant truck, this truck also carries all in hole equipment as well as auxiliary equipment such as compressors and mud recycling equipment - allowing us to keep our overheads low and pass the savings on to you, the client. Rig is supported by a Iveco 7t van.

With a rotary head capable of low speed, high torque; as well as high speed with less torque, the Comacchio MC405 is a formidable force capable of progressing boreholes in any geology to depths in excess of 150m using either DTH hammer, rock roller, PCD or drag bits.

Other systems include ROBIT casing and wireline coring.

Flushing mediums include mud/water recirculation via the 200ltr/min on board pump, or air flush via an auxiliary compressor.

**Rig Dimensions (when working)**

- **Width:** 1.50m
- **Length:** 4.00m
- **Height:** 5.50m
- **Weight:** 6.50 tonne

- **Rig Feed:** 4.50t
- **Rig Pull Pack:** 6.50t
- **Engine Power:** 95hp

**Dynamic Windowless Sampling**

Windowless sampling barrels between 86mm and 146mm diameter containing plastic liners to retain soil samples. Liners are removed from sample barrels after drilling. The use of a plastic liner allows for excellent presentation of high quality samples.

**In-situ Geotechnical Testing (All hammers calibrated annually)**

SPT, DPT and undisturbed sampling (100mm diameter U100 & 70mm diameter U70) can be carried out during the drilling of boreholes.

**Hollow/Solid Stem Augering (Fully guarded)**

The rotary drive heads on our rigs can be set to a low speed high torque setting to allow for both hollow and solid stem augering in 6", 8", 10" & 12" diameters to depths of 30m+.

In the case of hollow stem augering we can also advance windowless sampling barrels through them to allow for soil samples to be taken at any stage of the location.

**Open Hole Drilling - Drag Bits / Rock Rollers / Claw Bits / PDC Bits / DTH Hammers (Fully guarded)**

Down the hole hammer (DTHH), tri-cone rock roller, PCD and drag bits can be used for rotary open hole drilling.

DTHH is used with air flush for open hole drilling in rock and hard strata. Tri-cone, PCD and drag bits can be operated with air or water flush.

Open boreholes can be formed to depths of 150m+.

**Conventional Rotary Coring & Wireline (Fully guarded)**

Thin wall double tube core barrels incorporating a plastic liner are used to retrieve cores up to 123mm diameter.