

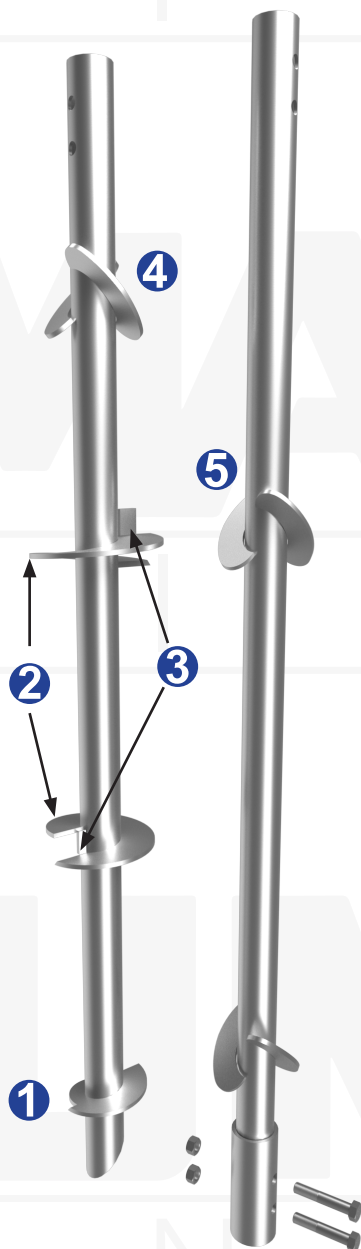
MAGNITUDE® MG434U Propulsion Grout Piles

Allowable Capacity 93 Tons - Ultimate Capacity 156 Tons

High-Strength 4.5" Diameter, 0.337" Wall, Center-Shaft with 10" Grout Column

Description: MAGNITUDE® Propulsion Grout Piles combine the unique benefits of helical installation with grouted displacement piles. MAGNUM® products are manufactured in the USA according to our ISO 9001 approved Quality Program. Our MAGNITUDE® piles utilize rigid bolted couplings to join extension sections and the lead section, extending the grout column and placing the helical bearing elements down to the desired bearing stratum. Structural capacities are developed according to AISC 360 and consider buckling length of 5 ft unbraced length. Grout displacement plates create an annular space which is filled by grout. Grout Propellers spaced along the pile shaft propelled the grout down to improve grout take. Grout is utilized as ground improvement, adhesion and corrosion protection only. Required depth of the pile depends on ground conditions and should be determined for each site by a design professional.

1. **Patented Dual-Cutting Edge helical bearing plates (DCE) enhance penetration through dense soils with occasional cobbles and debris.**
2. **Patented Alternating Helix pattern reduces wobble and improves plumbness and tracking.**
3. **Displacement paddles in the helices create an annular space for the grout column.**
4. **Patented Grout Propellers force grout down into the annular space as the pile shaft rotates.**
5. **Evenly spaced Grout Propellers along the length of all extension sections ensure maximum grout take and true diameter of grout column.**



Properties	
Center Shaft	4.5" Dia. x 0.337" Wall
Helices	12D14S16S
Propellers	10" Dia. @ +/- 6 ft O.C.
Max. Torque	29,700 ft-lbs
Grout Column	10" Dia.
Grout Reservoir	18" Dia. x 24" (min)
Structural Capacity	
Allowable Tension	65 Tons
Allowable Compression	93 Tons
Ultimate Compression	156 Tons

Installation Notes: Begin by auguring a grout reservoir and fill with high-mobility neat cement or sanded grout. Case reservoir if needed to prevent caving and water intrusion. Install MAGNITUDE® propulsion grout piles through the reservoir. Displacement plates clear a path for the grout column. Propellers force grout to follow. Apply crowd and torque as needed to advance pile. Continuously supply grout to reservoir. Add extensions to reach required depth. Monitor and maintain position and desired inclination.