

2022 PRODUCT **BUSINESS BROCHURE**



- Alignment monitoring •
- Torque monitoring •
- Power output •
- Data report •
- Compression Capacity calculation •
- Tension Capacity calculation •

HELICAL PILE INFORMATIZATION INSTALLATION SYSTEM

HELICAL PILES INTRODUCE



Helical piles are a type of structural foundation. They are designed to bear the weight of a building so that it does not sink into the soil. Helical piles (also known as screw piles, screw piers, helical piers, helical anchors, auger screw piles) are widely used, and their applications have expanded from lighthouses to railways, telecommunications, roads and many other industries where fast installation is required.

Yichen helical piles are suitable for residential and commercial applications. They are often used to seal the cracked walls, provide a solid and stable platform for industrial-grade towers, support boardwalks in dry or wet areas, provide deep foundation piers for new construction, and underpinning existing buildings.

Yichen uses patented technology to manufacture its own line of helical piles and various joint accessories.

From the drive head, indicators, various specifications of the helical piles and anchors to a series of supporting equipment, and from the monitoring system, data analysis to application solutions, we can provide the most powerful support for your project.

DIAGRAM

In many construction projects, for buildings with weak foundations, excessive building loads, seismic shock absorption requirements, or buildings such as chimneys, transmission towers, etc. that need to withstand large uplift forces and horizontal forces, the pile foundation can be very good. Improve the foundation strength of buildings. After a century of development, the screw pile technology has now become a pile foundation construction scheme with mature technology and easy operation.



Due to the low load bearing of the foundation, the building will sink



Leverage from deep soil layers to provide stable support

TRADITIONAL PILE FOUNDATION VS HELICAL PILES

In the field of traditional pile foundation construction, the most common are concrete precast piles and concrete cast-in-place piles, and they have their own characteristics.

1 Precast concrete pile



Precast concrete piles are precast reinforced concrete piles driven into the ground by a pile driver. It is characterized by high bearing capacity and high construction efficiency. However, the cost is high, the vibration and noise are large during construction, and the thick pile body will easily cause the surrounding ground to bulge when it squeezes the soil, which will have an impact on the surrounding buildings and the environment.

2 Concrete cast-in-place pile



Concrete cast-in-place piles are made by directly forming holes on the piles at the construction site, and then placing them in steel cages and pouring concrete. It is characterized by low construction difficulty and can build piles with a much larger diameter than prefabricated piles. The disadvantages are low bearing capacity, complex technological process, high operation requirements, and prone to quality accidents. Moreover, it cannot bear the load immediately after construction, and it is more difficult to construct in winter.

VS

3 Helical pile informatization installation system



Yichen's Helical Piles is a steel structure pile body with a spiral blade, which is the output part of the Yichen Helical Piles information construction system. The pile body is screwed into the ground like a screw and reaches the solid soil layer. Its information construction system has many advantages:

- Cost Effective
- Quick Installation
- No Curing Time
- Can be battered
- Proven Engineering
- Environmental Friendly
- Installation in All Weather Conditions
- Re-Usable
- Low Construction Noise
- Vibration Free
- Removable for Temporary Structures
- Can Be Grouted After Installation
- Resist Corrosion Through Galvanization

APPLICATIONS

- Pole bases
- Underpin existing foundations
- Walkways, boardwalks
- Telecommunication masts/platforms
- Electrical equipment, pylons and poles
- Buildings/modular buildings (mobile houses)
- Highways structures (signage)
- Concrete slab lifting and stabilization
- concrete-less foundations
- Rail structures (signalling, platforms, overhead line equipment)
- Structural support (compression or tension) for both permanent and temporary structures
- Temporary/permanent seating (stands)
- Anchors (back stays/tension guys)
- Retaining walls, flood defences, sea walls, bulkheads
- Wind turbines
- Solar farms
- Fencing
- Utility and pipeline tie downs
- Slope stabilization,

A helical pile can be used in nearly any situation and where driven or cast in place piles are currently used.



Utility and pipeline tie downs



Buildings/modular buildings (mobile houses)



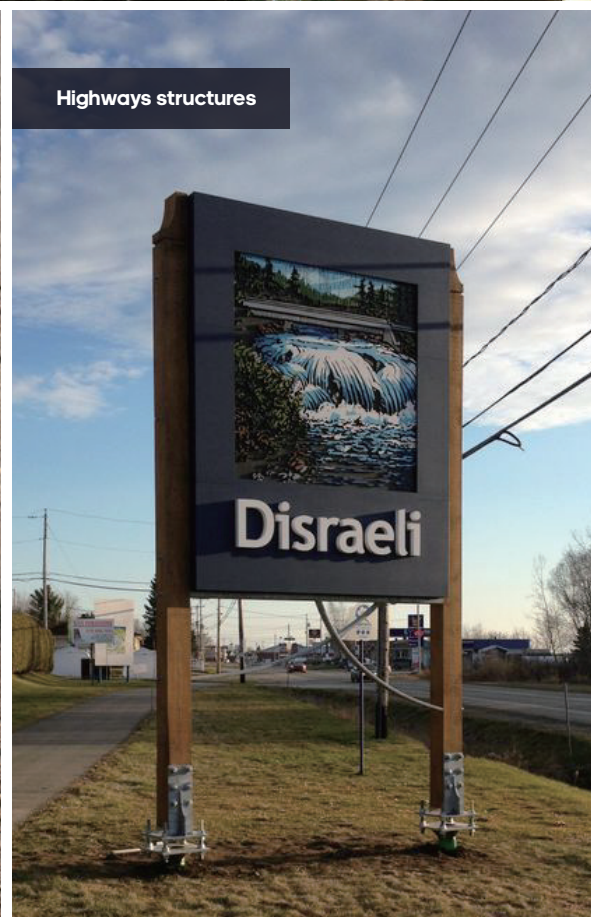
Structural support (compression or tension) for both permanent and temporary structures



Walkways, boardwalks



Electrical equipment, pylons and poles



Highways structures



Concrete slab lifting and stabilization



Utility and pipeline tie downs

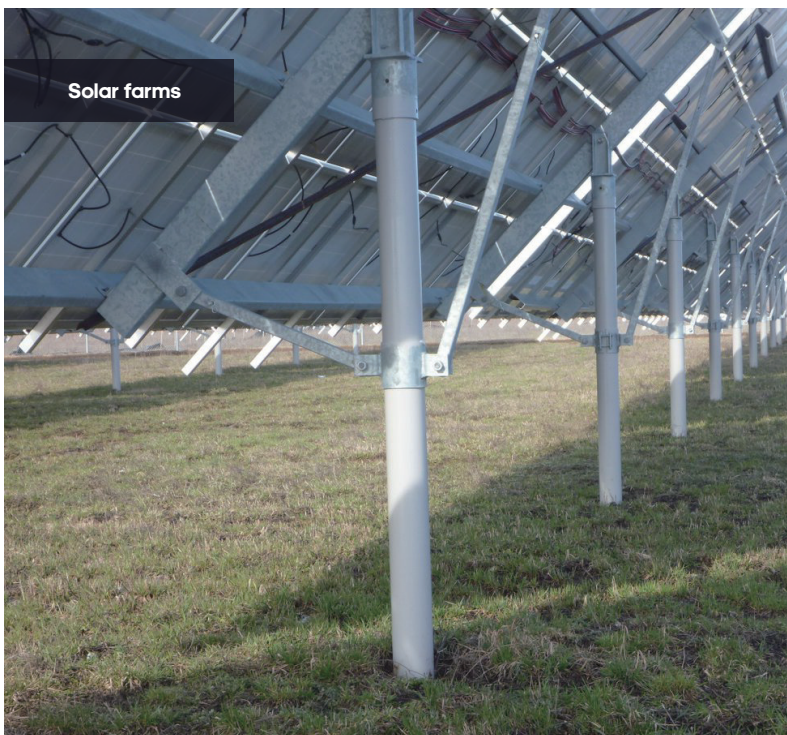


Slope stabilization

Supporting commercial and residential structures



Solar farms



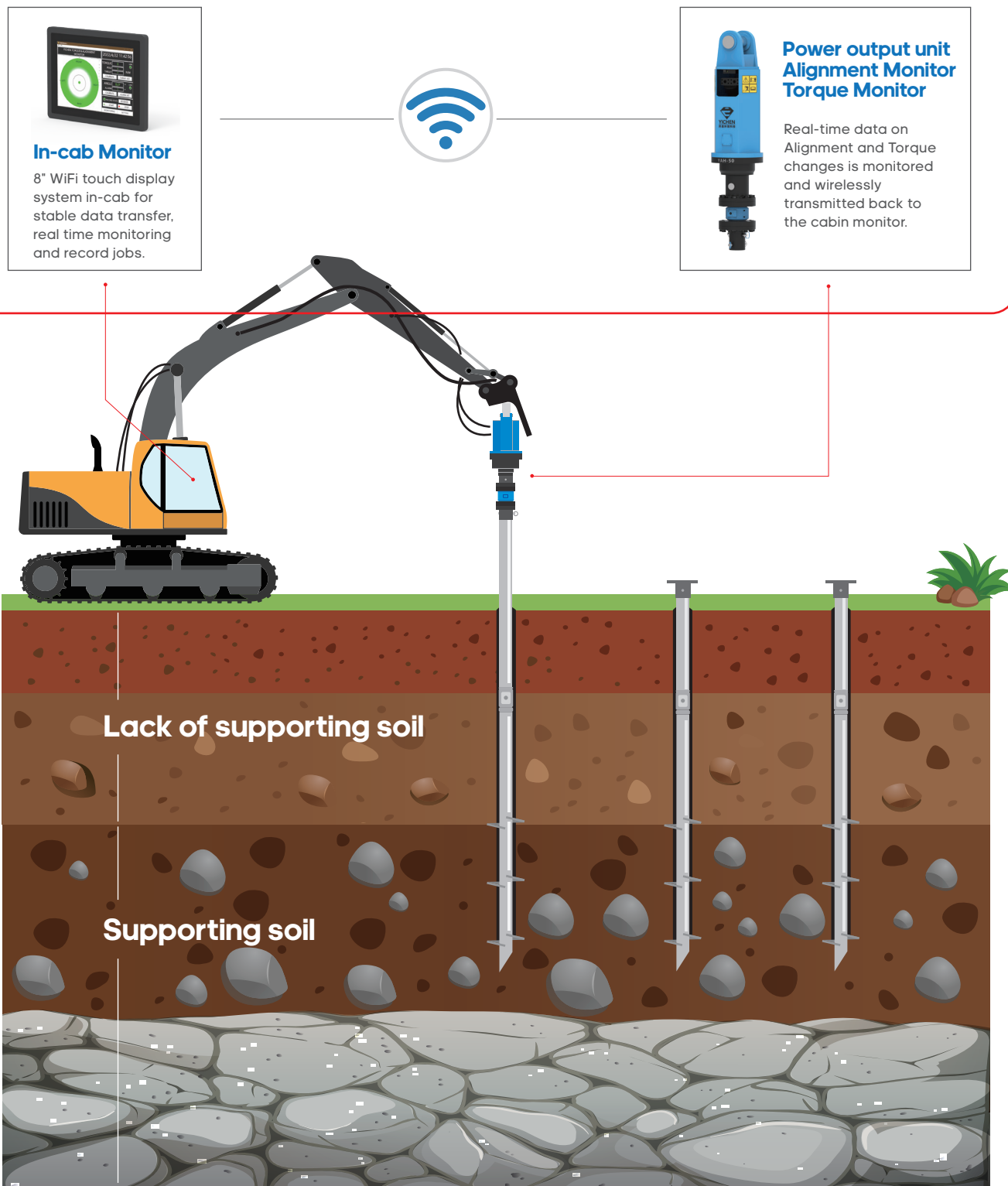
Retaining walls



INSTRUCTIONS

Yichen helical pile informatization installation system provides a strong guarantee for the installation of screw piles. It consists of a Power output unit, a Alignment Monitor, a Torque Monitor and an In-cab Monitor system. Data transmission is completed between system components through wireless signals, and the real-time monitored data is fed back to the monitoring system in the cockpit of the excavator (or other host) to help operators improve construction situational awareness and help them make accurate judgments. With this system, the operator can ensure that the verticality and Compression Capacity of the screw pile installation are up to standard.

WORKING DIAGRAM



model **YAH-50**



Product parameters

PROJECT	NUMERICAL VALUE
Max. Output Torque	50000N.m
Base Machine Weight	20-36ton
Pressure	220-350bar
Flow	100-300lpm
Speed	0-15rpm
Torque Measuring Range	0-50000N.m
Tilt Measuring Range	X: $\pm 180^{\circ}$
	Y: $\pm 90^{\circ}$
	Z: $\pm 180^{\circ}$
Tilt Measuring Accuracy	0.1° (static)
	0.5° (dynamic)
Operating Temp Range	-20° TO 80°C
Data Transmission	Wifi, USB
In-cab Monitor Size	8.4"LED
Suitable for Pile Series	API8, AP22, AP36

*The data provided above is not binding, as the manufacturer reserves itself the right to make improvements to its products at any time and with no advance notice.

model **YAH-80**



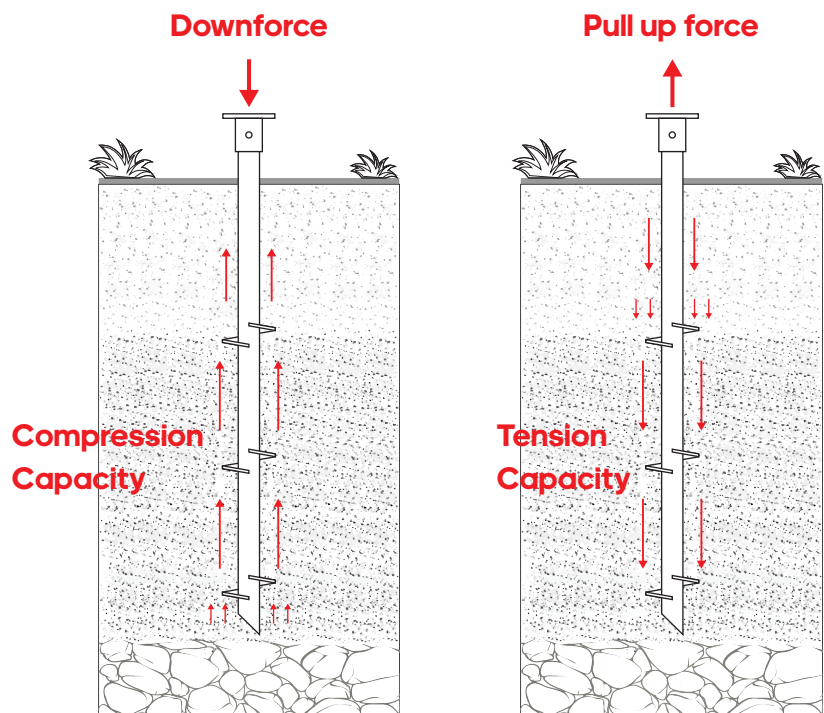
Product parameters

PROJECT	NUMERICAL VALUE
Max. Output Torque	80000N.m
Base Machine Weight	20-36ton
Pressure	220-350bar
Flow	100-300lpm
Speed	0-20rpm
Torque Measuring Range	0-80000N.m
Tilt Measuring Range	X: $\pm 180^{\circ}$
	Y: $\pm 90^{\circ}$
	Z: $\pm 180^{\circ}$
Tilt Measuring Accuracy	0.1° (static)
	0.5° (dynamic)
Operating Temp Range	-20° TO 80°C
Data Transmission	Wifi, USB
In-cab Monitor Size	8.4"LED
Suitable for Pile Series	API8, AP22, AP36, AP46

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HELICAL PILES

Every design detail of Yichen helical pile has been accurately calculated, which can enable Yichen helical pile to obtain the best penetration capacity when entering the soil, and minimize the disturbance of helix to the soil, so as to optimize the bearing capacity and tension capacity. At the same time, our helical pile also adopts the hot galvanizing process, so that it still has good performance after 75 years of underground use.



Spiral piles provide bearing capacity while also providing pullout resistance.

AP18 Helical Piles
Product parameters

Specifications	
Shaft	2.875" x 0.217" Nominal
Bolts	0.875"
Helices	0.375" Thick, Helix Die-Pressed 8", 10", 12", 14" & 16" Diameter Available
Spacing 'D'	24", 30", 36"
Pitch	3"
Coating	Galvanized (G), Bare Steel (NG), Epoxy Powder Coated (EP)
Compression Capacity	
Ultimate Capacity	36 Tons
Allowable Capacity	18 Tons
Tension Capacity	
Ultimate Capacity	32 Tons
Allowable Capacity	16 Tons

AP22 Helical Piles
Product parameters

Specifications	
Shaft	3.5" x 0.3" Nominal
Bolts	0.875"
Helices	0.5" Thick, Helix Die-Pressed 8", 10", 12", 14" & 16" Diameter Available
Spacing 'D'	30", 36", 42"
Pitch	3"
Coating	Galvanized (G), Bare Steel (NG), Epoxy Powder Coated (EP)
Compression Capacity	
Ultimate Capacity	44 Tons
Allowable Capacity	22 Tons
Tension Capacity	
Ultimate Capacity	36 Tons
Allowable Capacity	18 Tons

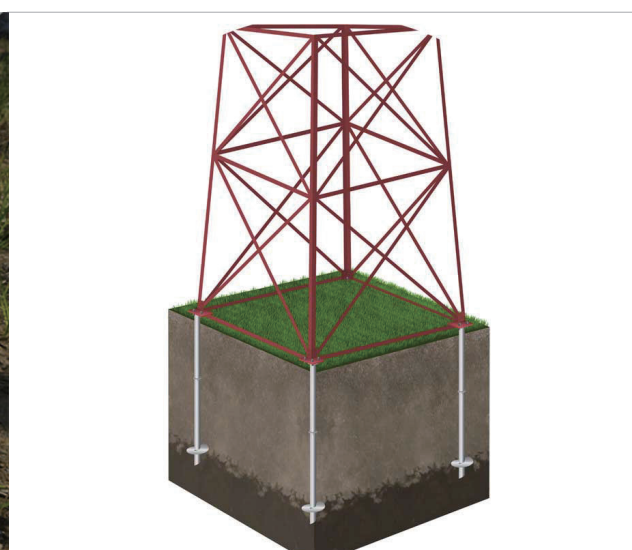
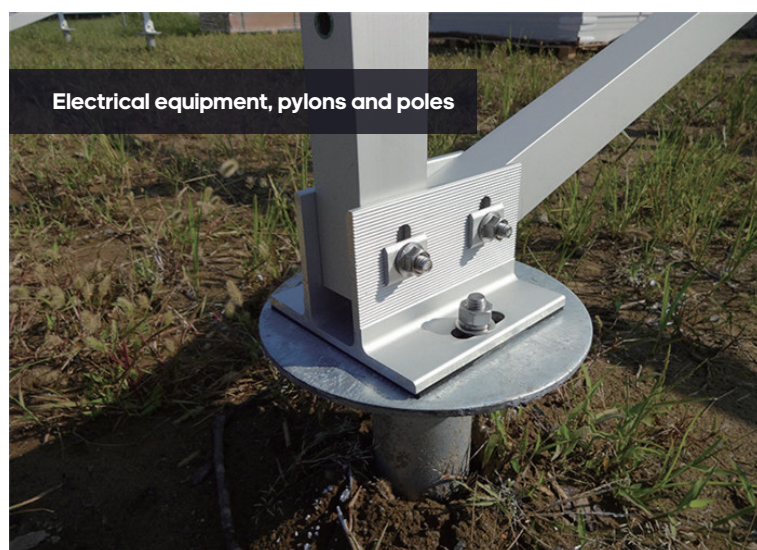
AP36 Helical Piles Product parameters

Specifications	
Shaft	4.5" x 0.337" Nominal
Bolts	1"
Helices	0.5" Thick, Helix Die-Pressed 10", 12", 14" & 16" Diameter Available
Spacing 'D'	30", 36", 42", 48"
Pitch	3"
Coating	Galvanized (G), Bare Steel (NG), Epoxy Powder Coated (EP)
Compression Capacity	
Ultimate Capacity	72 Tons
Allowable Capacity	36 Tons
Tension Capacity	
Ultimate Capacity	62 Tons
Allowable Capacity	31 Tons

AP46 Helical Piles Product parameters

Specifications	
Shaft	5.5" x 0.361" Nominal
Bolts	1"
Helices	0.5" Thick, Helix Die-Pressed 10", 12", 14" & 16" Diameter Available
Spacing 'D'	30", 36", 42", 48"
Pitch	3"
Coating	Galvanized (G), Bare Steel (NG), Epoxy Powder Coated (EP)
Compression Capacity	
Ultimate Capacity	92 Tons
Allowable Capacity	46 Tons
Tension Capacity	
Ultimate Capacity	78 Tons
Allowable Capacity	39 Tons

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