



All Rights Reserved

Materials and specifications are subject to change without notice.
Featured machines in photos may include additional equipment.

North American Office
Toronto Canada.
Tel: +1 647 669 0610
Fax: +1 905 883 0610
Email: Robinyxmao@ougangroup.com

Headquarter
17th floor, Building A, Wanda Plaza, Hangxing Rd., Gongshu District,
Hangzhou Zhejiang, China
Tel: +86 571 2802 7060
Email: info@ougangroup.com



FR180X-IV

Tier4 Final Engine

Rotary Drilling Rig



Engine

Model : Volvo TAD872VE
Rated power : 210kW/2200rpm
286hp/2200rpm

Drilling Performance

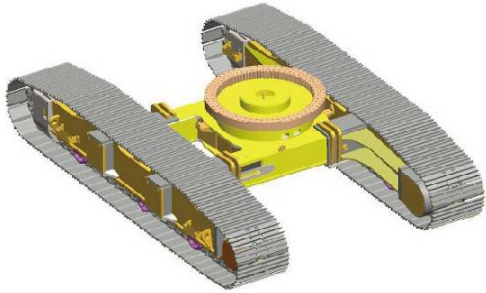
Torque: 180kN.m (132761bf.ft)
Max diameter: ϕ 1600mm (\varnothing 63in)
Max depth: 60m (196.85ft)

Working Weight

Working Weight with JS 406-4X13 Kelly-bar:
65t (143300lb)

TECHNICAL CHARACTERISTICS

▶ FR180X-IV rotary drilling rig is the construction machinery suitable for building foundation cast-in-situ pile and foundation pore-forming operation and widely used for the foundation construction of port, railway bridge and high-rise building.



▶ Electronically and turbocharged imported Volvo TAD872VE engine which has strong power and meets EU stage IV and EPA CARB tier 4 final emission standard.



▶ The Rexroth hydraulic system adopts the power limit control and flow control, which makes the hydraulic system more powerful and efficient.



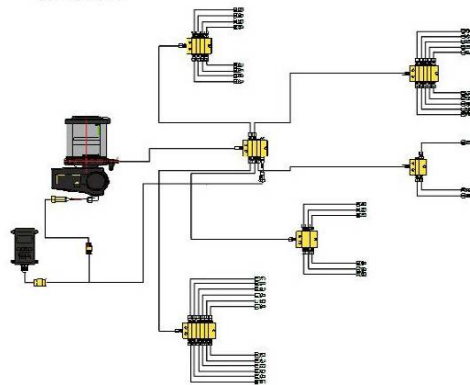
▶ With the single rope main winch, it efficiently solves the problem of rope wear, and improves the service life of ropes; a detection device of drilling depth on the main winch. Single rope makes deep inspection more accurate.



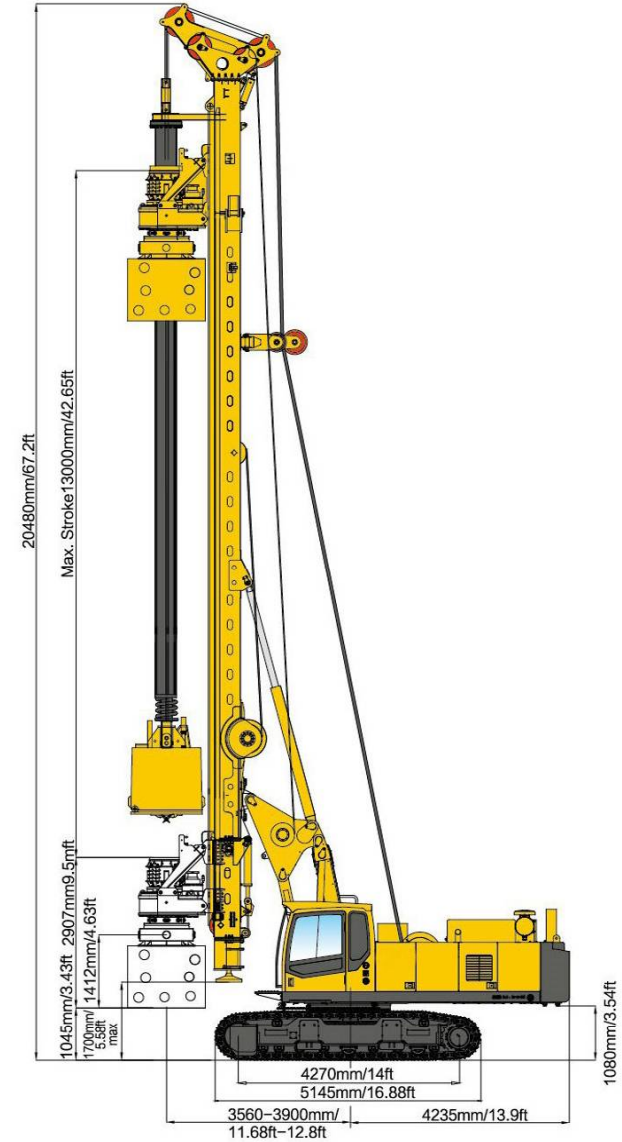
▶ The design of whole machine meets the requirements of the CE standard which guarantees safety of construction.



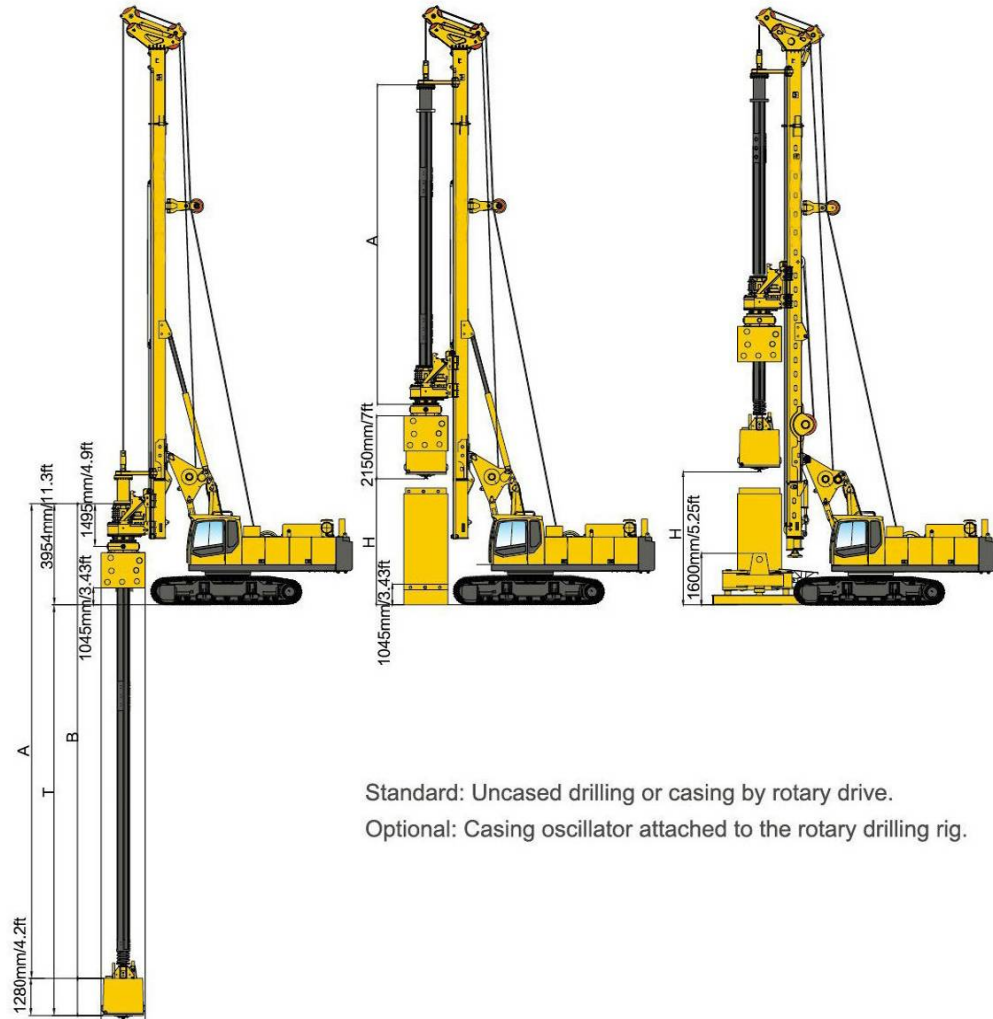
▶ Centralized lubrication system makes maintenance more convenient.



DIMENSIONS



KELLY BAR/CASING CONFIGURATION



Standard: Uncased drilling or casing by rotary drive.
Optional: Casing oscillator attached to the rotary drilling rig.

Drilling depth

Type of Kelly bar		A		B		Weight		H		T	
Unit		m	ft	m	ft	kg	lb	m	ft	m	ft
Inter-lock Kelly	JS406-4×13	13	42.7	48.3	158.5	8250	18191.3	2.2	7.2	46	150.9
	JS406-4×12	12	39.4	44.3	145.3	7600	16758.0	3.2	10.5	42	137.8
	JS406-4×11	11	36.1	40.3	132.2	7000	15435.0	4.2	13.8	38	124.7
	JS406-4×10	10	32.8	36.3	119.1	6400	14112.0	5.2	17.1	34	111.6
	JS406-4×9	9	29.5	32.3	106.0	5800	12789.0	6.2	20.3	30	98.4
	JS406-4×8	8	26.2	28.3	92.9	5200	11466.0	7.2	23.6	26	85.3
Friction Kelly	MZ406-5×13.5	13.5	44.3	62.9	206.4	8400	18522.0	1.7	5.6	60	196.9
	MZ406-5×12	12	39.4	57.9	190.0	7590	16736.0	3.2	10.5	52.5	172.3
	MZ406-5×11	11	36.1	52.9	173.6	7050	15545.3	4.2	13.8	47.5	155.8
	MZ406-5×10	10	32.8	47.9	157.2	6510	14354.6	5.2	17.1	42.5	139.4
	MZ406-5×9	9	29.5	42.9	140.8	5960	13141.8	6.2	20.3	37.5	123.0
	MZ406-5×8	8	26.2	37.9	124.3	5419	11948.9	7.2	23.6	32.5	106.6

Drilling diameter

Uncased	φ1600mm (Ø63in)
Cased	φ1300mm (Ø51.1in)

Max. length of casing sections

Without casing oscillator	H-1.1m (3.6ft)
With casing oscillator	H-1.6m (5.2ft)

THE FUNCTIONS OF CFA, DTH, DOUBLE ROTARY DRIVE, ROTARY SPRAY ARE OPTIONAL.



CFA

Max. Depth/Diameter:
24m/φ800mm (78.7ft/31.5in)
Max. lifting force:
500kN(112.5klbf)



DTH

Max. Depth/Diameter:
55m/φ1200mm (180.5ft/47in)
90m/φ800mm (295ft/31.5in)
110m/φ600mm (361ft/23.6in)
Max. lifting force: 520kN(117klbf)



Double rotary drive

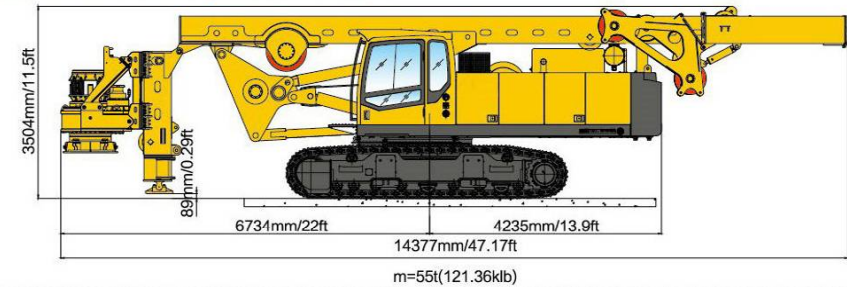
Up rotary drive:
Max. drilling torque: 82.9kN(18.6klbf)
Max speed: 35rpm
Down rotary drive:
Max. drilling torque: 165.7kN(37.3klbf)
Max speed: 35.6rpm

TECHNICAL SPECIFICATIONS

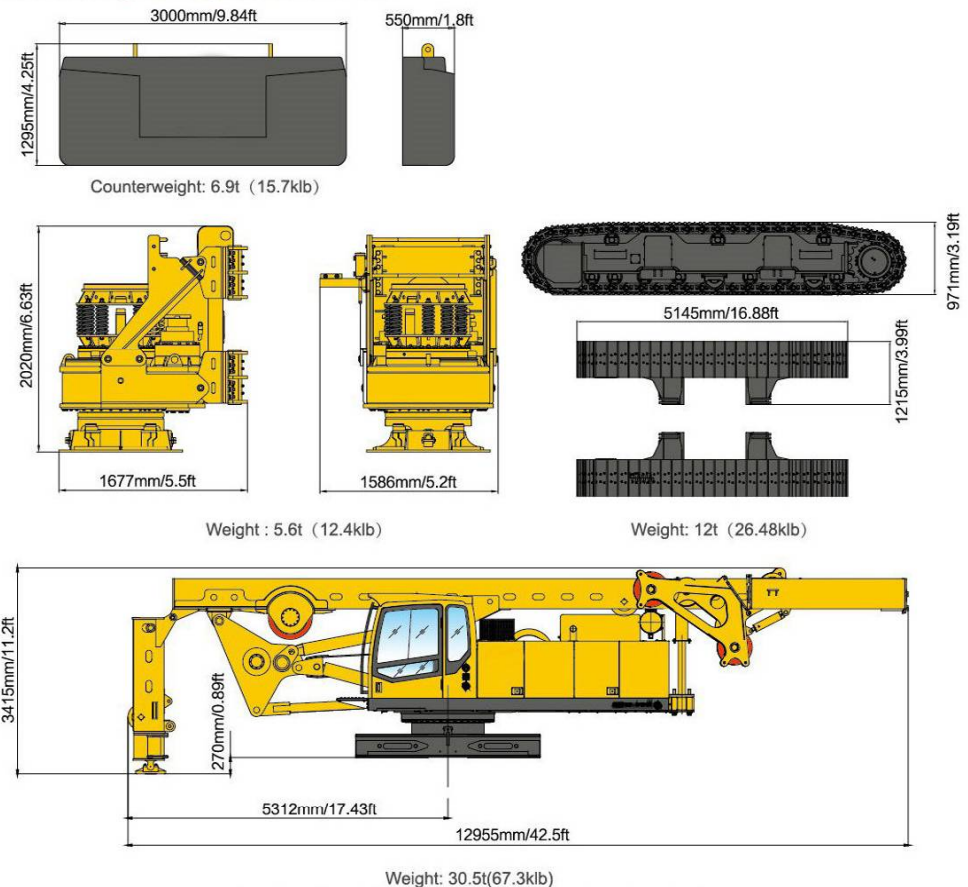
Item	US		Metric	
Rotary drive	Standard	Max. torque	132761lbf.ft	180kN.m
		Rotary speed		7-33r/min
	Optional	Rotary speed		6-25 r/min
		Spin off		95±2r/min
Crowd winch	Pull up force	47210lbf		210kN
	Pull down force	47210lbf		210kN
	Stroke	42.6ft		13000mm
Crowd cylinder (optional)	Pull up force	40465lbf		180kN
	Pull down force	35969lbf		160kN
	Stroke	16.38ft		5000mm
Main winch	Max. Pulling force	40465lbf		180kN
	Max. speed	213.3ft/min		65m/min
	Rope diameter	1.1in		28mm
Auxiliary winch	Max. Pulling force	11240lbf		50kN
	Max. speed	262.5ft/min		80m/min
	Rope diameter	0.63in		16mm
Engine	Model	Volvo TAD872VE		
	aspiration	turbocharged and charge air cooled		
	Number cylinders	6		
	Bore	4.3in		110mm
	Stroke	5.32in		135mm
	Displacement	1.7gal		7.7L
	Rated power	286hp@2200rpm		210kW@2200rpm
	emission certification	EU Stage IV , EPA CARB Tier 4 Final		
	fuel tank	90.2gal		410L
	Hydraulic system (1)	Hydraulic system	Rexroth	
hydraulic pressure		350bar		35 MPa
Flow (Main loop +Auxiliary loop)		2×49.5gal/min+1×19.8gal/min		2×225 l/min+1×90 l/min
Hydraulic oil tank capacity		176gal		800 L
Chassis	Chassis	TDP55		
	Crawler length	202.7in		5145mm
	Wheel-base	168in		4270mm
	Crawler Width Min./Max	116.6/165.5in		2960/4200mm
	Width of track shoes	27.6in		700 mm
	Ground pressure	108.7bar		108.7 kPa
	Traction force	78683lbf		350kN
	Traveling speed	6562ft/h		2.0km/h
Swing	Swing speed	2.5±0.3r/min		
	Noise emission correspond	2000/14/EC directive		
Noise	Guaranteed sound pressure level Lpa in the cabin	74dB(A)		
	Guaranteed sound power level Lwa	110dB(A)		
Mast angle	Lateral	3°/3°		
	Forward/Backward	5°/15°		
Kelly-bar	Drill bar diameter	φ16in		φ406mm
	Head size	7.9×7.9in		200×200mm

(1) With limiting power control and flow control, it makes the hydraulic system more energetic and efficient.

Main machine transportation data



Disassembly transportation data



Without kelly bar, drilling tools, counterweight, rotary drive, tracks.