

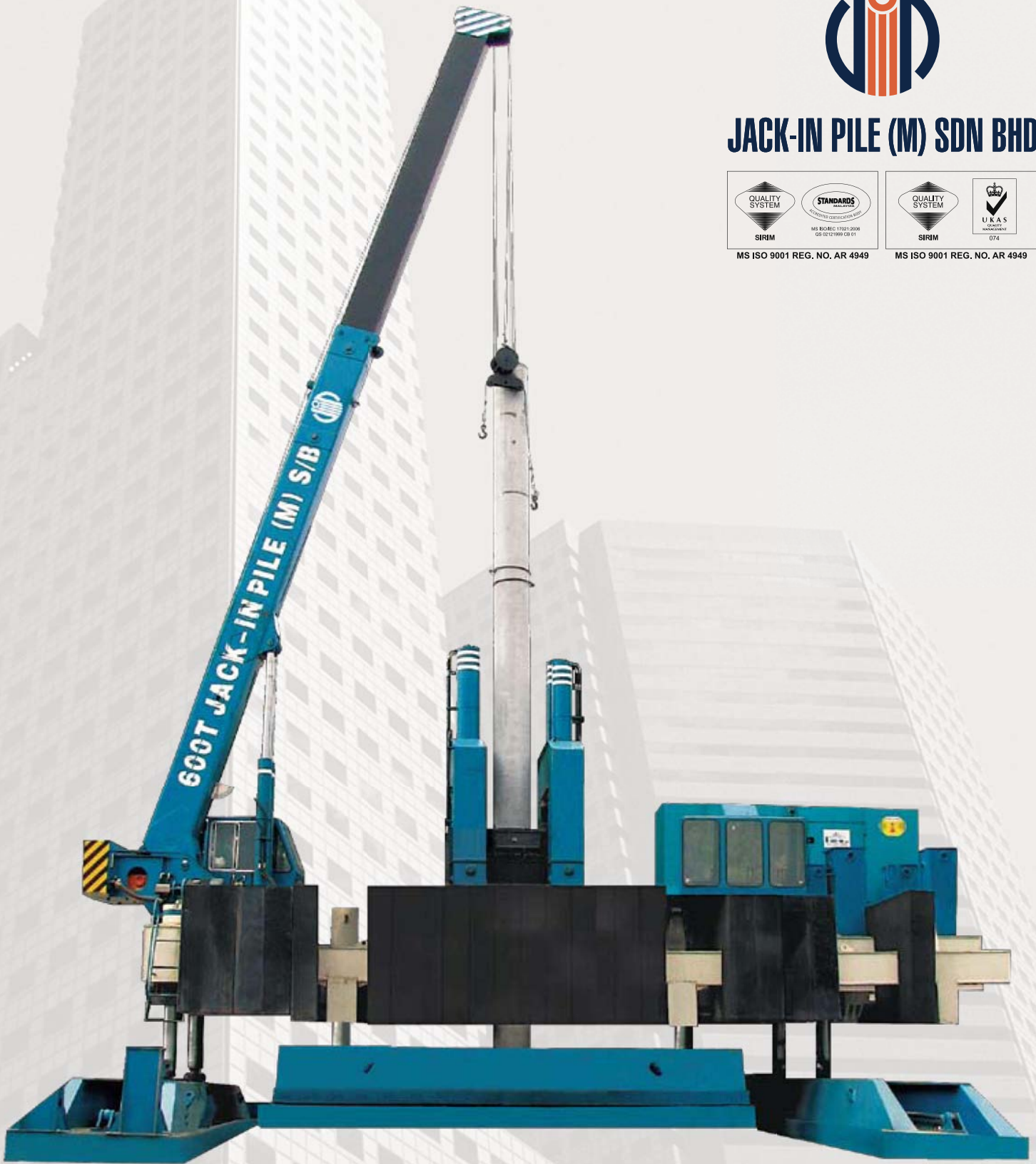


## JACK-IN PILE (M) SDN BHD



MS ISO 9001 REG. NO. AR 4949

MS ISO 9001 REG. NO. AR 4949



# ENVIRONMENTAL FRIENDLY AND EFFICIENT PILING SYSTEM

[www.jackinpile.com.my](http://www.jackinpile.com.my)

# Our Range Of Piling Machines



**800 tons hydraulic**  
Jack-in machines with crane.



**600 tons hydraulic**  
Jack-in machines with crane.



**380 tons hydraulic**  
Jack-in machines with crane.



**250 tons hydraulic**  
Jack-in machines with crane.



**100 tons hydraulic**  
Jack-in machines



**80 tons hydraulic**  
Jack-in machines

(All our piling machines are equipped with its' own generator set, welding machines & counter weights.)

## Hydraulic Jack-In Machines - Technical Data

MODEL	YZY 80T	YZY 100T	YZY 250T	YZY 380T	YZY 600T	YZY 800T
Maximum Jacking Force (kN)	800	1000	2500	3800	6000	8000
Applicable RC Square Pile (mm)	150, 175,200	150, 175, 200, 230, 250	150, 175, 200, 230, 250, 300, 350	250, 300, 350, 400		
Applicable Spun Pile (mm dia)	N.A.	250	250, 300, 350, 400	250, 300, 350, 400, 450, 500, 600		
Jacking Speed (m/min): Accelerated/Normal Speed	N.A./1.45	3.76/1.92	3.5/1.6	5.6/1.5	5.6/1.1	4.5/2.16
Single Stroke Distance (m)	0.8	2	1.7/1.6	1.8		2.0
Bearing Pressure (MPa) :Long Slipper	0.144	0.085	0.093	0.105	0.125	0.13
Bearing Pressure (MPa) : Short Slipper	0.13	0.103	0.118	0.107	0.126	0.17
Long Slipper Movement (m/min)	6.08	1.96	3.70	5.60	9.30	7.0
Short Slipper Movement (m/min)	6.08	1.96	3.70	2.80	2.33	4.1
Clearance For Piling (mm) from edge of: Long Slipper/Short Slipper/Side-Jack	1500/2700/600	2800/3000/1000	3000/5000/1200	4000/6000/1500	5000/7500/1800	6000/8000/2000
Swing Back Angle (°/swing)	10	12	12	15	12	10
Overall Output Power (kW)	22	41.5	76.8	96.0	122.0	150.0
Overall Dimension (m) Length x Width x Height	5.7 x 2.7 x 2.8	6.8 x 5.2 x 15.4	10.4 x 5.1 x 6.5	12.0 x 9.5 x 6.9	13.6 x 12.0 x 7.5	13.9 x 8.7 x 7.9
Machine Overall Self Weight (Tons)	20	50	80	120	180	190





## Our Objectives

- Total Customer Satisfaction
- Maximization of resource
- Minimization of wastage
- Completion on schedule
- Continuous Quality Management

With our dedicated workforce and our highly experienced management and technical support, we are well prepared to meet our objectives and the industry's requirements for innovative, costs effective and environmentally friendly piling.







We provide environmental friendly and efficient piling as our machines are:

- SILENT** - piling without noise pollution
- VIBRATION FREE** - eliminates the risk of damage to adjacent buildings
- VERSATILE** - side-jacking allows for piling at confined areas
- MULTI PURPOSE** - the machine itself acts as kentledge for load test
- SPEEDY** - jacking speed of up to 5.6 metres per minute
- PRACTICAL** - on board crane allows for self hoisting of piles
- MOBILE** - generator attached to machine allows for mobility on site
- EXPEDIENT** - customized pile-cutter and CO2 welding provides speed & safety

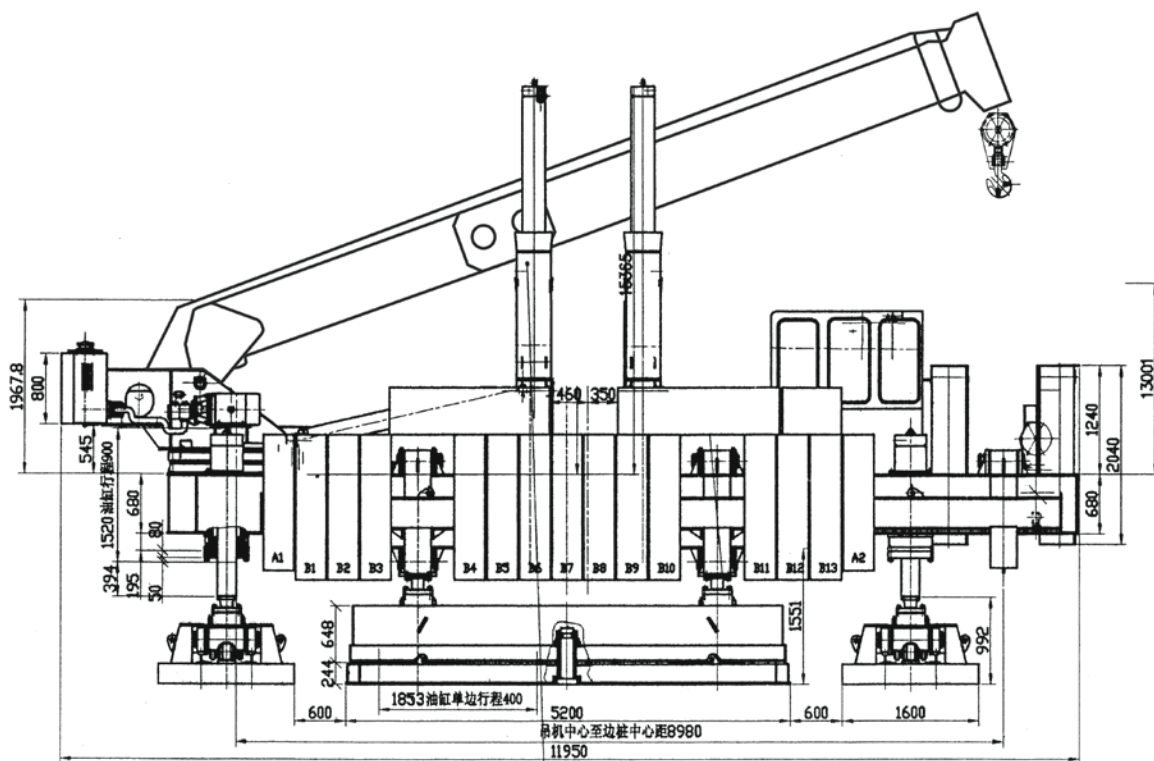




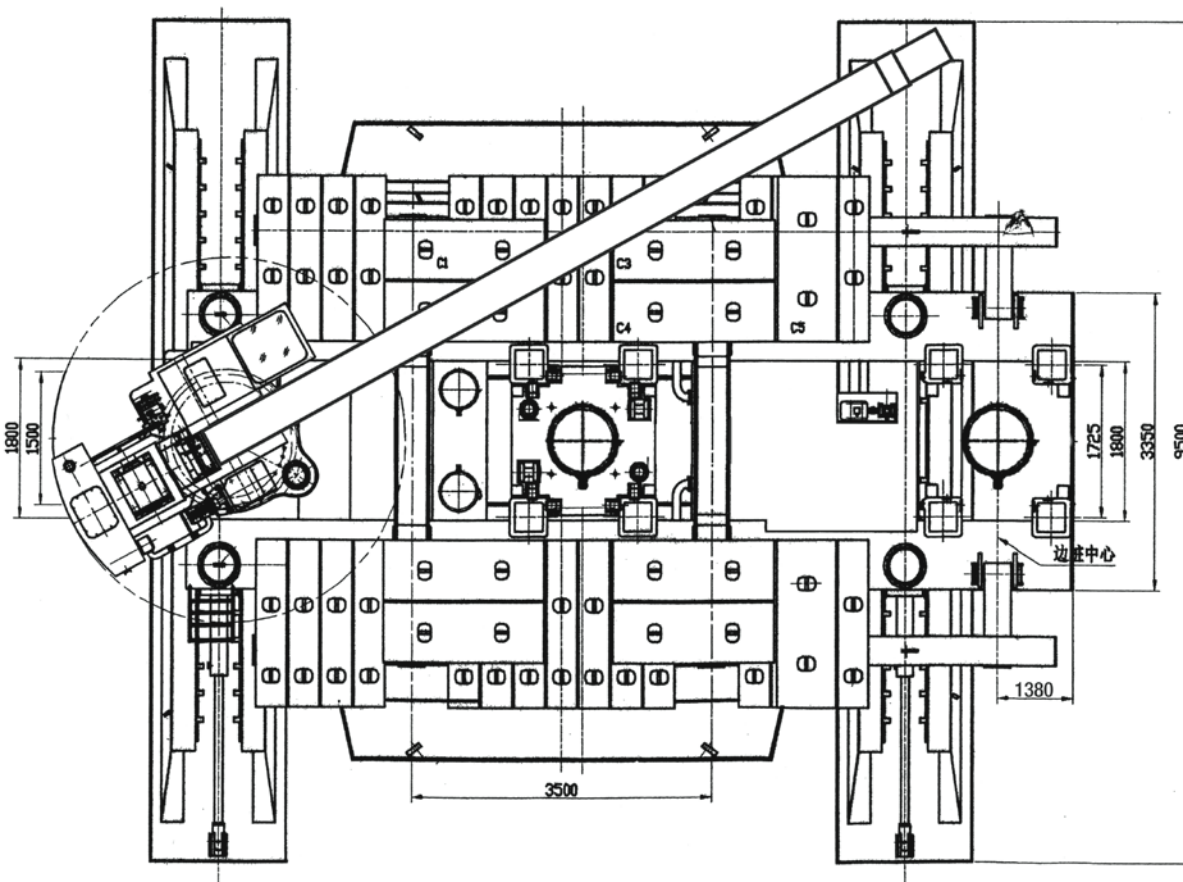


Model YZY 380T

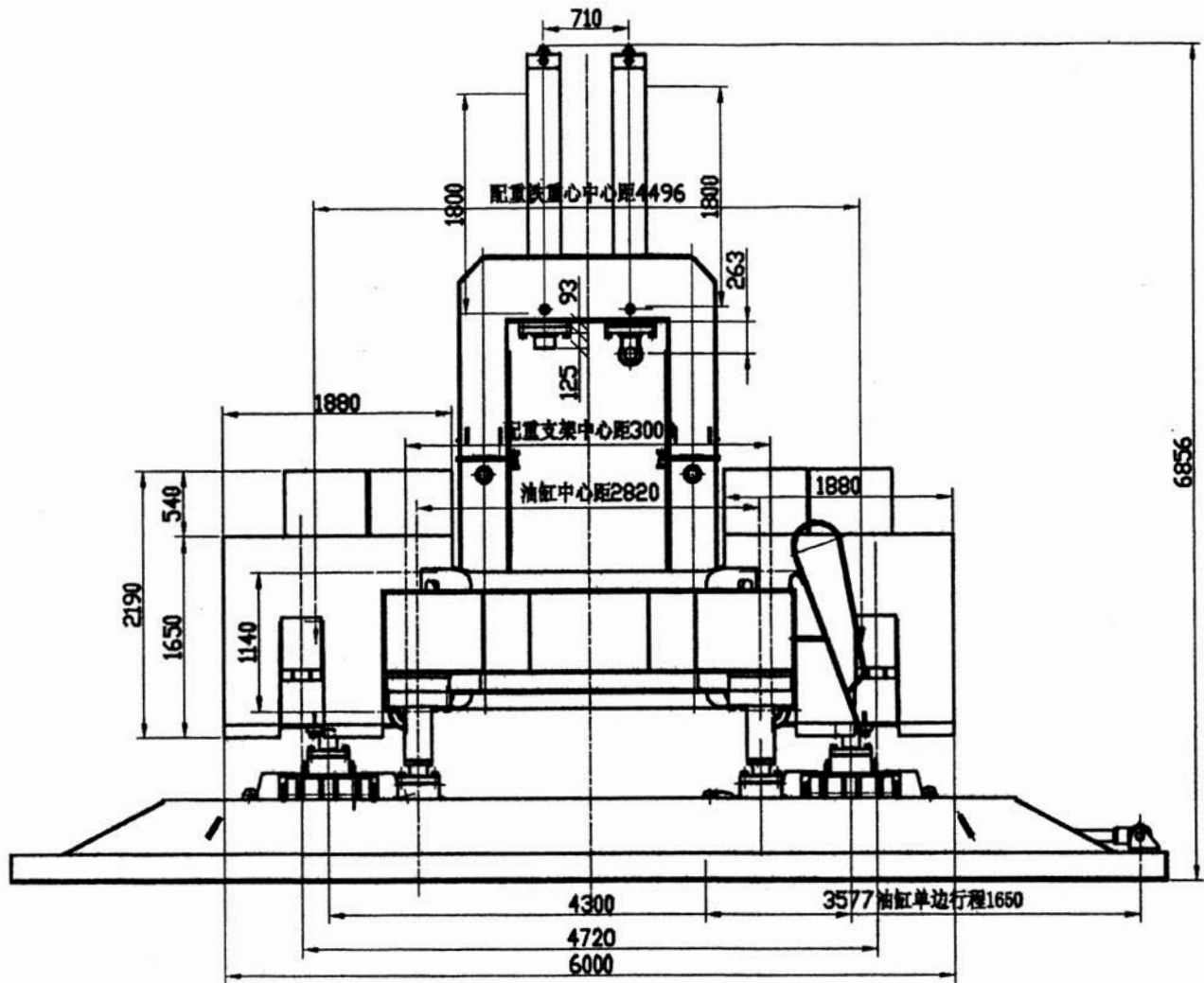
JACK-IN PILE (M) SDN BHD



Front View



Top View



Side View

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**METHOD OF STATEMENT FOR JACK-IN PILE :-**

**PILING MACHINE MODEL : YZY 800T, YZY 600T, YZY 380T, YZY 250T, YZY 100T & YZY 80T**

**1.0 GENERAL**

- 1.1 The purpose of this method of statement is to outline the method and construction procedures required to carry out Jack-In pile works, including material and equipment required for the installation of pile.
- 1.2 Detail of the procedures contained herein may be reviewed periodically and modified based on actual requirement.
- 1.3 The pile to be installed will be of a specified size by jacking in through overlaying soil to the bedrock strata.

**2.0 PLATFORM & CLEARANCE REQUIREMENTS**

- 2.1 Proper access and egress to site shall be provided by employer/client.
- 2.2 Underground utility cable/pipe/drain on the site, if any, shall be re-positioned.
- 2.3 Piling works shall only commence upon satisfaction of the platform and clearance requirements.
- 2.4 Normal / center jack-in works shall require for minimum clearance from the edge of site boundary, wall and/or slope to the piling points as below:-

Model	YZY800 T	YZY600 T	YZY380 T	YZY 250T	YZY 100T	YZY 80T
Clearance required	6000mm	5000mm	4000mm	3000mm	2800mm	1500mm

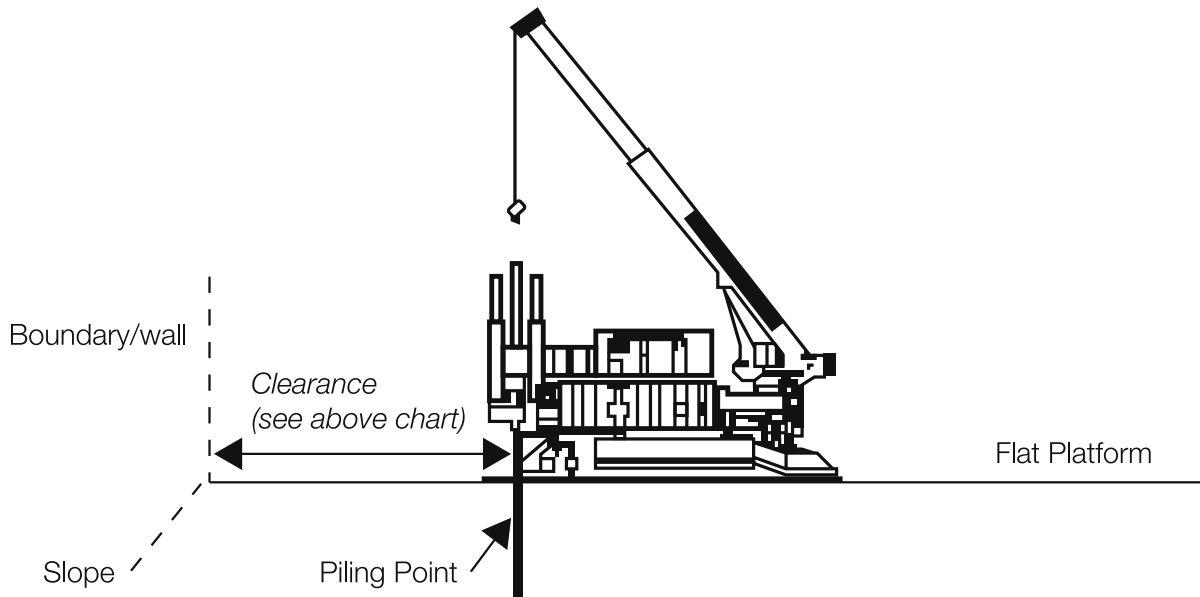
- 2.5 Side jack-in works, if required, shall require for minimum clearance from the edge of site boundary, wall and/or slope to the piling point as below:-

*Please note that the maximum jacking force (kN) achievable for side-jacking of piles is **45% of the normally applicable maximum jacking force** in accordance with the respective model(s) of the piling machine(s)*

Model	YZY800 T	YZY600 T	YZY380 T	YZY 250T	YZY 100T	YZY 80T
Clearance required	2000mm	1800mm	1500mm	1200mm	1000mm	600mm

**3.0 SURVEY WORKS**

- 3.1 The Survey Control Points, typically the building / block corner pegs are determined by the employer / client's licensed surveyor. The location of these points shall be sited at a place unlikely to be disturbed and are clearly marked using timber pegs with nail head to indicate the precise position of control point.
- 3.2 Setting Out Pile Positions would be where every pile position is pre-surveyed by the land surveyor with reference to the grid lines. The pile position will be pegged using a mild steel bar.







**4.0 SAFETY PROCEDURE FOR PILING OPERATOR**

- 4.1 Jack-In machines and cranes will be operated by trained and authorized operator. In the event of operating by a trainee it will be under the guidance and instruction of a trained and authorized operator.
- 4.2 Before operation, ensure that the machine is correctly maintained. Report all defects immediately.
- 4.3 Check all hydraulic jacks, wire ropes for wear at frequent intervals.
- 4.4 Before operation, check all rig motions. Ensure machine is on firm and level ground.
- 4.5 Before hoisting, ensure that the pile is being lifted at the lifting hooks.
- 4.6 Work only with an authorized signal man and operate to his signals. Do not react to the signals from unauthorized persons, except in an emergency.
- 4.7 Check for obstructions and men in the vicinity of the rig before hoisting & pitching.
- 4.8 Before unloading from and loading to any vehicles, ensure the driver is out of the cab unless this has special protection. Also make sure that the driver of vehicle is in full view of machine operator before the load is lifted.
- 4.9 Prior to establishment of plant, ensure that there are no overhead obstructions and that the working surface and access are suitable for operation of our machine.

**5.0 TYPE OF PILE**

5.1 The applicable range and length of pile for the following piling machines are:-

Model	YZY800 T	YZY600 T	YZY380 T	YZY 250T	YZY 100T	YZY 80T
Spun pile (mm diameter)	250, 300, 350, 400, 450, 500, 600			250, 300, 350, 400	250	N.A.
RC square pile (mm)	250, 300, 350, 400			150,175, 200, 230, 250, 300, 350	150,175, 200, 230, 250	150, 175, 200
Pile length (metre)	6, 9, 12			3, 6, 9, 12	3, 6	3.6

**6.0 PREPARATION FOR PITCHING PILE**

- 6.1 Piles should be stored on site within the operating radius of the Jack-In machine.
- 6.2 Before commencing Jack-In operations it shall be ensured that:-
  - 6.2.1 A pile layout drawing and specification relating to the Contract are available.
  - 6.2.2 The Client has been made aware of our intention to commence piling.
- 6.3 The Jack-In machine shall be established at the pile position.
- 6.4 The pile peg shall be offset by marking two pegs which are perpendicular to each other for checking the position of pile after pitching.
- 6.5 Hoisting and pitching of pile for the following piling machines are by way of :-
  - 6.5.1 **YZY 800T, YZY 600T, YZY 380T & YZY 250T :-**
    - (i) The nominated pile segment shall be drawn towards the machine using the on-board crane;
    - (ii) The pile shall then be lifted by the on-board crane to facilitate the pile head to locate in the pile position.
  - 6.5.2 **YZY 100T & YZY 80T:-**
    - (i) The nominated pile segment shall be drawn towards the machine using the winch and be placed near to the jacking helmet ;
    - (ii) The pile shall then be lifted into position and slot into jacking helmet;
- 6.6 The correct verticality of the pile position relative to the reference pins shall be checked. Pile inclination is checked using a spirit level.

**7.0 JACKING PILE**

- 7.1 The jacking method for the following piling machines are :-
  - 7.1.1 **YZY 800T, YZY 600T, YZY 380T & YZY 250T :-**
    - (i) Insert pile into the Jack-In system clamp by using the on-board crane;
    - (ii) Clamped the pile and detach the crane cable;
    - (iii) Final vertical check and positioning by moving in the X and Y direction;
    - (iv) Commence jacking pile by applying jacking force onto the clamp device to press down the pile.
  - 7.1.2 **YZY 100T :-**
    - (i) With the pile slotted to the jacking helmet, lower the pile to position where the pile toe almost reach the ground when the pile is free from the platform
    - (ii) Final vertical check and position the pile;
    - (iii) Commence jacking pile by operating the jack cylinder to press down the pile.
- 7.2 If pile jointing is necessary then the pile will be joined in accordance to conventional method or by way of MIG / CO2 welding.



## JACK-IN PILE (M) SDN BHD

- 7.3 When the jacking pile reaches certain depth and refuses penetration at the desired corresponding pressure, the pile may have set. If required, dolly may be used to jack-in excess pile length to below ground level.
- 7.4 The 'set' of the pile is achieved when the jacking force is taken as 2.0 times the pile working load and is maintained for 30 seconds with residual settlement not more than 5mm.
- 7.5 Once 'set' the extruding length of the pile shall either crushed by usage of a dolly and/or cut off by usage of a diamond cutter to facilitate movement of the machine.

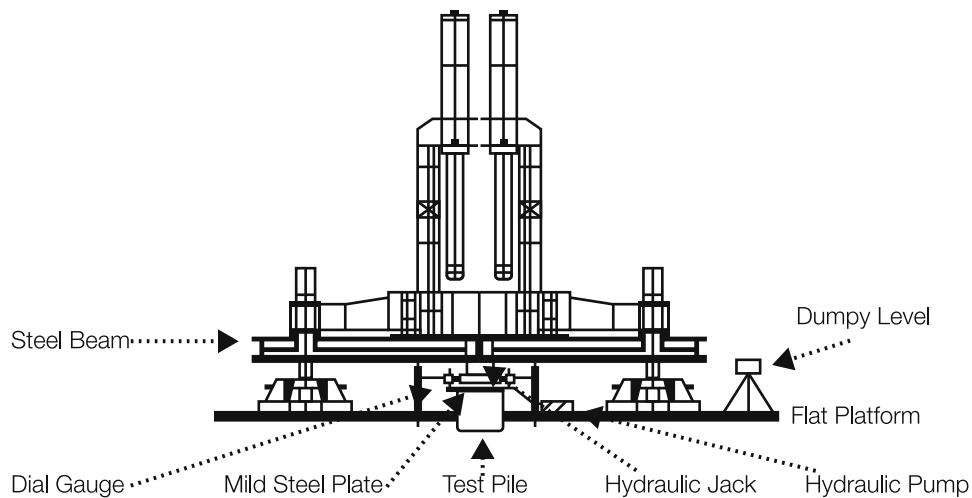
### 8.0 RECORDING

- 8.1 Recording shall be done by machine operator. The recording sheet shall be approved by the S.O.
- 8.2 On completion of the pile installation, all necessary information shall be recorded in or the pile record sheet can be completed. If the pile has not been driven as expected, has been obstructed or does not conform to the specification, this shall be recorded in the remark column.

### METHOD STATEMENT FOR MAINTAINED LOAD TEST BY USING JACK-IN MACHINE AS KENTLEDGE

#### 1.0 LOAD TEST EQUIPMENT

- 1.1 Jack-In machine (see below drawing), steel counterweight and steel beam sections makes up the whole static load test system in which the independent hydraulic jack impose vertical force on the test pile.



#### 2.0 METHOD OF TESTING AND LOADING

- 2.1 Prior to testing, load test equipment should be completely setting out on firm ground.
- 2.2 The hydraulic jack shall be placed directly on top of the centroid of a mild steel plate which rest directly on top of the pile.
- 2.3 The loading cycle, loading increment and the holding time are all subject to final confirmation from the Engineer.
- 2.4 Pressure conversion table, calibration certificate for pressure gauge and dial gauge shall be submitted to Engineer for approval.
- 2.5 Movement of the pile head shall be measured by 4 dial gauges. The dial gauges shall have a travel of 50 mm and graduated on 0.01 mm per division.
- 2.6 Jack-in is also a piling system whereby every pile point is self tested during installation. The interpretation of result shall subject to Engineer confirmation.



## CALCULATION OF SETTING PRESSURE FOR :- MODEL YZY-800T HYDRAULIC PILE JACKING MACHINE

Formula :  $Q = A \times P \times n / 1000$

Where, Q = Jacking Force (tons)

A = Effective cylinder surface area (cm<sup>2</sup>)  $\pi D^2/4$

D = Diameter of hydraulic cylinder (cm)

P = Hydraulic Pressure Mpa (1 Mpa = 10.2 kg/cm<sup>2</sup>)

n = Nos. of hydraulic cylinder

Hydraulic Pressure (Mpa)	Jacking Force (tons)			Hydraulic Pressure (Mpa)	Jacking Force (tons)		
	2 nos x 320mm Dia. Cylinder	2 nos x 320mm Dia. Cylinder	Combine 4 nos x 320mm Dia. Cylinder		2 nos x 320mm Dia. Cylinder	2 nos x 320mm Dia. Cylinder	Combine 4 nos x 320mm Dia. Cylinder
1.0	16.41	16.41	32.82	12.5	205.11	205.11	410.22
1.5	24.61	24.61	49.23	13.0	213.31	213.31	426.63
2.0	32.82	32.82	65.64	13.5	221.52	221.52	443.04
2.5	41.02	41.02	82.04	14.0	229.72	229.72	459.45
3.0	49.23	49.23	98.45	14.5	237.93	237.93	475.85
3.5	57.43	57.43	114.86	15.0	246.13	246.13	492.26
4.0	65.64	65.64	131.27	15.5	254.34	254.34	508.67
4.5	73.84	73.84	147.68	16.0	262.54	262.54	525.08
5.0	82.04	82.04	164.09	16.5	270.74	270.74	541.49
5.5	90.25	90.25	180.50	17.0	278.95	278.95	557.90
6.0	98.45	98.45	196.91	17.5	287.15	287.15	574.31
6.5	106.66	106.66	213.31	18.0	295.36	295.36	590.72
7.0	114.86	114.86	229.72	18.5	303.56	303.56	607.12
7.5	123.07	123.07	246.13	19.0	311.77	311.77	623.53
8.0	131.27	131.27	262.54	19.5	319.97	319.97	639.94
8.5	139.47	139.47	278.95	20.0	328.18	328.18	656.35
9.0	147.68	147.68	295.36	21.0	344.58	344.58	689.17
9.5	155.88	155.88	311.77	22.0	360.99	360.99	721.99
10.0	164.09	164.09	328.18	23.0	377.40	377.40	754.80
10.5	172.29	172.29	344.58	24.0	393.81	393.81	787.62
11.0	180.50	180.50	360.99	24.5	402.02	402.02	804.03
11.5	188.70	188.70	377.40				
12.0	196.91	196.91	393.81				





**CALCULATION OF SETTING PRESSURE FOR :-  
MODEL YZY-600T HYDRAULIC PILE JACKING MACHINE**

Formula:  $Q = A \times P \times n / 1000$

Where, Q = Jacking Force (tons)

A = Effective cylinder surface area (cm<sup>2</sup>)  $\pi D^2/4$

D = Diameter of hydraulic cylinder (cm)

P = Hydraulic Pressure Mpa (1 Mpa = 10.2 kg/cm<sup>2</sup>)

n = Nos. of hydraulic cylinder

Hydraulic Pressure (Mpa)	Jacking Force (tons)			Hydraulic Pressure (Mpa)	Jacking Force (tons)		
	2 nos x 250mm Dia. Cylinder	2 nos x 320mm Dia. Cylinder	Combine 2 nos x 250mm & 2 nos x 320mm Dia. Cylinder		2 nos x 250mm Dia. Cylinder	2 nos x 320mm Dia. Cylinder	Combine 2 nos x 250mm & 2 nos x 320mm Dia. Cylinder
1.0	10.02	16.41	26.42	12.5	125.19	205.11	330.30
1.5	15.02	24.61	39.64	13.0	130.20	213.31	343.51
2.0	20.03	32.82	52.85	13.5	135.20	221.52	356.72
2.5	25.04	41.02	66.06	14.0	140.21	229.72	369.93
3.0	30.05	49.23	79.27	14.5	145.22	237.93	383.15
3.5	35.05	57.43	92.48	15.0	150.23	246.13	396.36
4.0	40.06	65.64	105.70	15.5	155.23	254.34	409.57
4.5	45.07	73.84	118.91	16.0	160.24	262.54	422.78
5.0	50.08	82.04	132.12	16.5	165.25	270.74	435.99
5.5	55.08	90.25	145.33	17.0	170.26	278.95	449.21
6.0	60.09	98.45	158.54	17.5	175.26	287.15	462.42
6.5	65.10	106.66	171.76	18.0	180.27	295.36	475.63
7.0	70.11	114.86	184.97	18.5	185.28	303.56	488.84
7.5	75.11	123.07	198.18	19.0	190.29	311.77	502.05
8.0	80.12	131.27	211.39	19.5	195.29	319.97	515.27
8.5	85.13	139.47	224.60	20.0	200.30	328.18	528.48
9.0	90.14	147.68	237.82	20.5	205.31	336.38	541.69
9.5	95.14	155.88	251.03	21.0	210.32	344.58	554.90
10.0	100.15	164.09	264.24	21.5	215.33	352.79	568.11
10.5	105.16	172.29	277.45	22.0	220.33	360.99	581.33
11.0	110.17	180.50	290.66	22.5	225.34	369.20	594.54
11.5	115.17	188.70	303.87	23.0	230.35	377.40	607.75
12.0	120.18	196.91	317.09				



## CALCULATION OF SETTING PRESSURE FOR :- MODEL YZY-380T HYDRAULIC PILE JACKING MACHINE

Formula:  $Q = A \times P \times n / 1000$

Where, Q = Jacking Force (tons)

A = Effective cylinder surface area (cm<sup>2</sup>)  $\pi D^2/4$

D = Diameter of hydraulic cylinder (cm)

P = Hydraulic Pressure Mpa (1 Mpa = 10.2 kg/cm<sup>2</sup>)

n = Nos. of hydraulic cylinder

Hydraulic Pressure (Mpa)	Jacking Force (tons)			Hydraulic Pressure (Mpa)	Jacking Force (tons)		
	2 nos x 220mm Dia. Cylinder	2 nos x 220mm Dia. Cylinder	Combine 4 nos x 220mm Dia. Cylinder		2 nos x 220mm Dia. Cylinder	2 nos x 220mm Dia. Cylinder	Combine 4 nos x 220mm Dia. Cylinder
1.0	7.76	7.76	15.51	13.0	100.82	100.82	201.65
1.5	11.63	11.63	23.27	13.5	104.70	104.70	209.40
2.0	15.51	15.51	31.02	14.0	108.58	108.58	217.16
2.5	19.39	19.39	38.78	14.5	112.46	112.46	224.92
3.0	23.27	23.27	46.53	15.0	116.34	116.34	232.67
3.5	27.14	27.14	54.29	15.5	120.21	120.21	240.43
4.0	31.02	31.02	62.05	16.0	124.09	124.09	248.18
4.5	34.90	34.90	69.80	16.5	127.97	127.97	255.94
5.0	38.78	38.78	77.56	17.0	131.85	131.85	263.69
5.5	42.66	42.66	85.31	17.5	135.72	135.72	271.45
6.0	46.53	46.53	93.07	18.0	139.60	139.60	279.21
6.5	50.41	50.41	100.82	18.5	143.48	143.48	286.96
7.0	54.29	54.29	108.58	19.0	147.36	147.36	294.72
7.5	58.17	58.17	116.34	19.5	151.24	151.24	302.47
8.0	62.05	62.05	124.09	20.0	155.11	155.11	310.23
8.5	65.92	65.92	131.85	20.5	158.99	158.99	317.98
9.0	69.80	69.80	139.60	21.0	162.87	162.87	325.74
9.5	73.68	73.68	147.36	21.5	166.75	166.75	333.50
10.0	77.56	77.56	155.11	22.0	170.63	170.63	341.25
10.5	81.43	81.43	162.87	22.5	174.50	174.50	349.01
11.0	85.31	85.31	170.63	23.0	178.38	178.38	356.76
11.5	89.19	89.19	178.38	23.5	182.26	182.26	364.52
12.0	93.07	93.07	186.14	24.0	186.14	186.14	372.27
12.5	96.95	96.95	193.89	24.5	190.01	190.01	380.03



**CALCULATION OF SETTING PRESSURE FOR :-  
MODEL YZY-250T HYDRAULIC PILE JACKING MACHINE**

Formula:  $Q = A \times P \times n / 1000$

Where, Q = Jacking Force (tons)

A = Effective cylinder surface area (cm<sup>2</sup>)  $\pi D^2/4$

D = Diameter of hydraulic cylinder (cm)

P = Hydraulic Pressure Mpa (1 Mpa = 10.2 kg/cm<sup>2</sup>)

n = Nos. of hydraulic cylinder

Hydraulic Pressure (Mpa)	Jacking Force (tons)			Hydraulic Pressure (Mpa)	Jacking Force (tons)		
	2 nos x 180mm Dia. Cylinder	2 nos x 180mm Dia. Cylinder	Combine 4 nos x 180mm Dia. Cylinder		2 nos x 180mm Dia. Cylinder	2 nos x 180mm Dia. Cylinder	Combine 4 nos x 180mm Dia. Cylinder
1.0	5.19	5.19	10.38	13.0	67.49	67.49	134.99
1.5	7.79	7.79	15.58	13.5	70.09	70.09	140.18
2.0	10.38	10.38	20.77	14.0	72.69	72.69	145.37
2.5	12.98	12.98	25.96	14.5	75.28	75.28	150.56
3.0	15.58	15.58	31.15	15.0	77.88	77.88	155.76
3.5	18.17	18.17	36.34	15.5	80.47	80.47	160.95
4.0	20.77	20.77	41.53	16.0	83.07	83.07	166.14
4.5	23.36	23.36	46.73	16.5	85.67	85.67	171.33
5.0	25.96	25.96	51.92	17.0	88.26	88.26	176.52
5.5	28.56	28.56	57.11	17.5	90.86	90.86	181.71
6.0	31.15	31.15	62.30	18.0	93.45	93.45	186.91
6.5	33.75	33.75	67.49	18.5	96.05	96.05	192.10
7.0	36.34	36.34	72.69	19.0	98.64	98.64	197.29
7.5	38.94	38.94	77.88	19.5	101.24	101.24	202.48
8.0	41.53	41.53	83.07	20.0	103.84	103.84	207.67
8.5	44.13	44.13	88.26	20.5	106.43	106.43	212.87
9.0	46.73	46.73	93.45	21.0	109.03	109.03	218.06
9.5	49.32	49.32	98.64	21.5	111.62	111.62	223.25
10.0	51.92	51.92	103.84	22.0	114.22	114.22	228.44
10.5	54.51	54.51	109.03	22.5	116.82	116.82	233.63
11.0	57.11	57.11	114.22	23.0	119.41	119.41	238.82
11.5	59.71	59.71	119.41	23.5	122.01	122.01	244.02
12.0	62.30	62.30	124.60	24.0	124.60	124.60	249.21
12.5	64.90	64.90	129.80	24.5	127.20	127.20	254.40





### CALCULATION OF SETTING PRESSURE FOR :- MODEL YZY-100T HYDRAULIC PILE JACKING MACHINE

Formula:  $Q = A \times P \times n / 1000$

Where, Q = Jacking Force (tons)

A = Effective cylinder surface area (cm<sup>2</sup>)  $\pi D^2/4$

D = Diameter of hydraulic cylinder (cm)

P = Hydraulic Pressure Mpa (1 Mpa = 10.2 kg/cm<sup>2</sup>)

n = Nos. of hydraulic cylinder

Hydraulic Pressure (Mpa)	Jacking Force (tons)	Hydraulic Pressure (Mpa)	Jacking Force (tons)
	1 nos x 280mm Dia. Cylinder		1 nos x 280mm Dia. Cylinder
1.0	6.28	9.0	56.53
1.5	9.42	9.5	59.67
2.0	12.56	10.0	62.81
2.5	15.70	10.5	65.96
3.0	18.84	11.0	69.10
3.5	21.99	11.5	72.24
4.0	25.13	12.0	75.38
4.5	28.27	12.5	78.52
5.0	31.41	13.0	81.66
5.5	34.55	13.5	84.80
6.0	37.69	14.0	87.94
6.5	40.83	14.5	91.08
7.0	43.97	15.0	94.22
7.5	47.11	15.5	97.36
8.0	50.25	16.0	100.50
8.5	53.39		



**CALCULATION OF SETTING PRESSURE FOR :-  
MODEL ZZY-80T HYDRAULIC PILE JACKING MACHINE**

Formula :  $Q = A \times P \times n / 1000$

Where, Q = Jacking Force (tons)  
 A = Effective cylinder surface area (cm<sup>2</sup>)  $\pi D^2/4$   
 D = Diameter of hydraulic cylinder (cm)  
 P = Hydraulic Pressure Mpa (1 Mpa = 10.2 kg/cm<sup>2</sup>)  
 n = Nos. of hydraulic cylinder

Hydraulic Pressure (Mpa)	Jacking Force (tons)	Hydraulic Pressure (Mpa)	Jacking Force (tons)
	4 nos x (125mm / 63mm) Dia. Cylinder		4 nos x (125mm / 63mm) Dia. Cylinder
1.0	3.74	12.0	44.82
1.5	5.60	12.5	46.69
2.0	7.47	13.0	48.56
2.5	9.34	13.5	50.42
3.0	11.21	14.0	52.29
3.5	13.07	14.5	54.16
4.0	14.94	15.0	56.03
4.5	16.81	15.5	57.89
5.0	18.68	16.0	59.76
5.5	20.54	16.5	61.63
6.0	22.41	17.0	63.50
6.5	24.28	17.5	65.36
7.0	26.15	18.0	67.23
7.5	28.01	18.5	69.10
8.0	29.88	19.0	70.97
8.5	31.75	19.5	72.83
9.0	33.62	20.0	74.70
9.5	35.48	20.5	76.57
10.0	37.35	21.0	78.44
10.5	39.22	21.5	80.30
11.0	41.09	22.0	82.17
11.5	42.95	22.5	84.04







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