



SEMW
上 工 机 械

PIT300 RAMMED SHAFT CASING
OSCILLATORS



PIT300

压入式竖井搓管机

上 海 工 程 机 械 厂 有 限 公 司
SHANGHAI ENGINEERING MACHINERY CO., LTD.



前言

FOREWORD

PIT300压入式竖井搓管机是上工机械在引进、消化、吸收国外先进技术基础上自主研发的一款集机电液控为一体的新型套管钻机。本机功能全面，灵巧轻便涵盖国内外各种机型功能，具有多种转速和扭矩控制、自动垂直调整、刀头受力控制、远程线控等特点操作便捷，无噪音、低振动、性能优越可靠。

PIT300 rammed shaft casing oscillators is a new casing drilling machine, which integrates electro-mechanical and hydraulic control, independently developed on the basis of introducing, digesting and absorbing foreign advanced technologies. The machine has comprehensive functions, flexible and portable cover all kinds of machine functions at home and abroad, with a variety of speed and torque control, automatic vertical adjustment, tool head force control, remote wire control and other characteristics of convenient operation, no noise, low vibration, superior and reliable performance.

PIT工法简介

PIT METHOD INTRODUCTION

PIT工法使用摇动压入式竖井搓管机PIT300，通过专用外套管（钢制圆筒）向地面边摇动边压入的方式，通过挖掘挡土钢套管中的部分，来构筑基坑，是无振动、低噪音、节能环保的工法。与其他钢板桩支护工程相比，更加凸显安全性、经济性、高效性的优良工艺。

PIT method is using rammed shaft casing oscillators PIT300, through a special outer casing (steel cylinder) to the ground while shaking and pressing way, it is a vibration free, low noise, energy saving and environmental protection method to construct foundation pit by digging part of retaining steel casing. Compared with other steel sheet pile supporting projects, it highlights the excellent technology of safety, economy and efficiency.

设备特点

FEATURES



1、施工安全高效 **Safe and efficient**

人员无需基坑内作业，所有操作都在地面上进行，有效保障人员安全；施工过程中钢套管能够有效的挡土护壁，有效杜绝地面崩塌、地基下沉的隐患。

All operations are carried out on the ground to effectively ensure personnel safety, no need working in the foundation pit. In the construction process, steel casing can effectively block the soil and protect wall, effectively eliminate the hidden danger of ground collapse and foundation subsidence.

设备灵巧自重轻即使在道路狭小的空间也能够正常施工；即使在缺乏自立性的地基上，也无需材料注入等辅助工艺，适用于在不同类型的地基上施工。

Equipment dexterity light weight even can work in the narrow space of the road; Even on the lack of a self-supporting foundation, there is no need for material injection and other auxiliary processes, suitable for different types of foundation.



2、无振动、低噪音 **No vibration, low noise**

通过液压油缸操作进行钢套管的压入和起拔，可以做到无振动、低噪音。

Hydraulic cylinder helps the steel casing pipe press in and pull out, which can achieve no vibration and low noise.



3、优越的操作性确保施工精度

Advanced control system & high-precision

智能化操作系统，帮助施工人员迅速掌握设备运行方式。

Intelligent operating system helps construction personnel quickly grasp the operation mode of equipment.

设备通过先进的操控系统能够保证钢套管的垂直度，应对不同地层提供稳定的压入力，确保高精度地施工。

Advanced control system can ensure the verticality of the steel casing, provide the stable pressure force for different formation, and ensure the high-precision.

适用范围

APPLICATION

1、地铁地基、深基坑围护咬合桩、城市改造拔桩和清除障碍桩，铁路、港口、道桥、江河、湖泊、高层建筑、水电水利施工钻孔灌注桩，特殊用途钻孔桩。

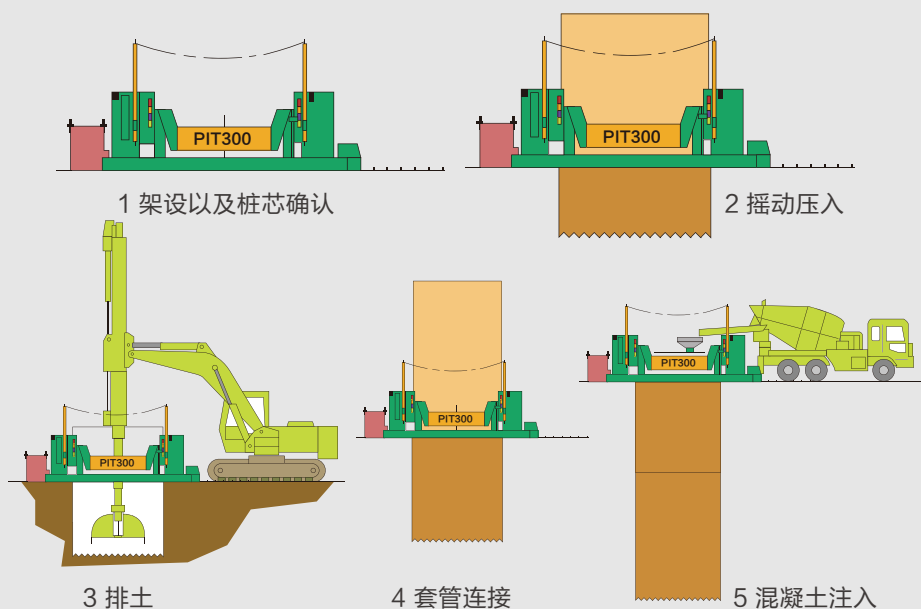
Subway foundation, deep foundation pit retaining occluding pile, urban reconstruction pulling pile and removing obstacle pile, railway, port, road bridge, river, lake, high-rise building, hydropower construction bored pile, special purpose bored pile.

2、采用全套管，在接近已有建筑物时也能施工，特别适合于城区内作业。

Full casing can be used when approaching existing buildings, especially suitable for urban operation.

作业流程

OPERATION PROCEDURE

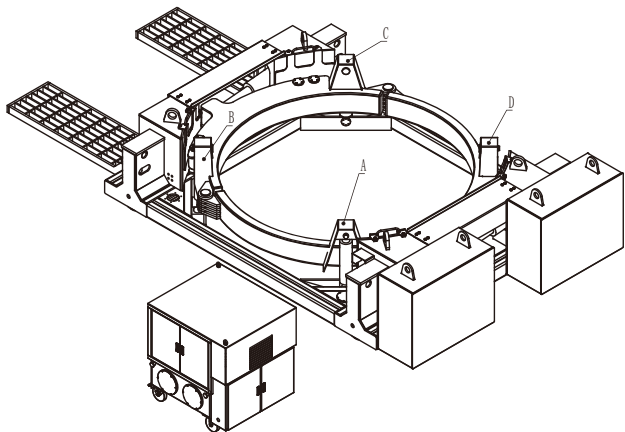
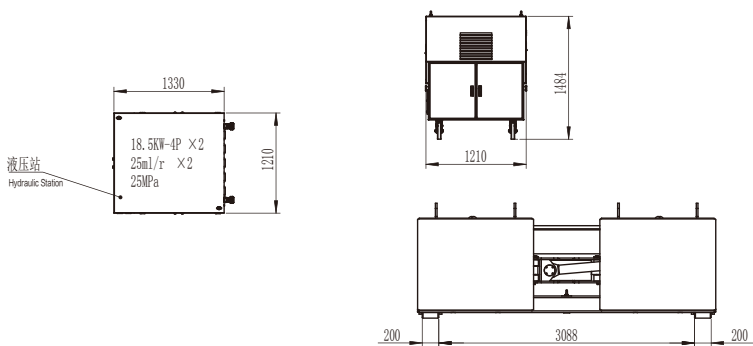
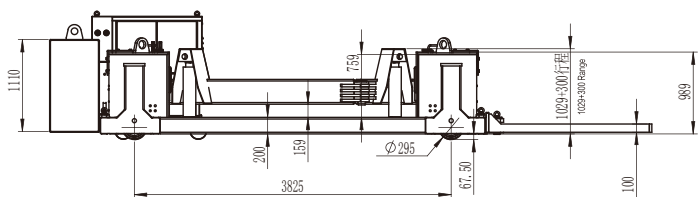
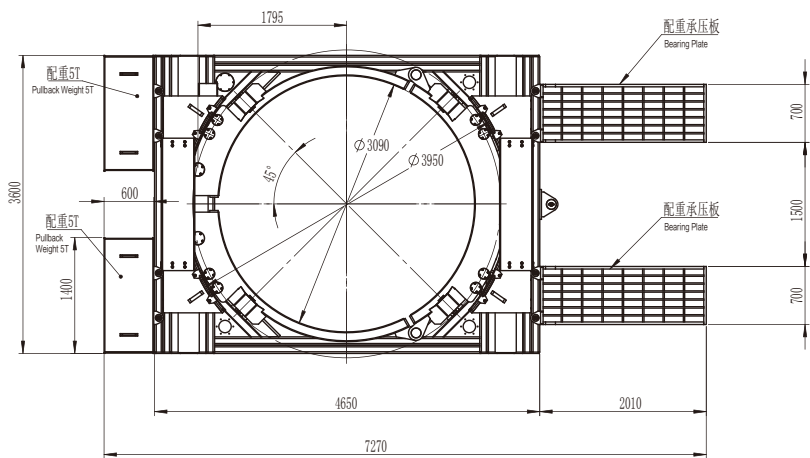


1. Erection and pile core confirmation
2. Oscillating and pressing
3. Displacing

4. Casing connecting
5. Concrete injecting

外形尺寸

DIMENSION



技术参数

TECHNICAL SPECIFICATIONS

主机参数 Host parameters

最大口径 Max. diameter	mm	3090
最大压入力 Max. pressure	kN	441
最大起拔力 Max. lifting force	kN	980
最大摇动力 Max. oscillating force	kN.m	1176
最大摇动角度 Max. oscillating angle		12
压入油缸数量 Pressure cylinder number	只	4
摇动油缸数量 Oscillating cylinder number	只	2
夹紧油缸数量 Clamping cylinder number	只	1
本体质量 Body weight	kg	8500
升降行程 lifting stroke	mm	300

液压柜技术参数 Hydraulic parameters

最大压力 Max. pressure	MPa	20.5
油泵排量 Pump displacement	ml/r	25 （2组 2 Groups）
电动机容量 Motor capacity	kW	18.5 （2组 2 Groups）
油箱容积 Oil tank capacity	L	450
主要尺寸 Dimensions	mm	1350×1050×1500
本体质量 Body weight	kg	1780



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