

WK-4D挖掘机

WK-4D属于矿用机械式单斗挖掘机。主要用来采掘和剥离经过爆破的岩石和矿石，也被广泛用于水利建筑工程中土方的挖掘工作。它是露天矿山重要采掘设备之一，可以装备矿石年产量为500万吨级左右的中型矿山。

WK-4D矿用挖掘机是采用多电机独立驱动的单斗正铲式机械挖掘机。本机采用单梁挺杆式起重臂，双斗杆齿条推压机构和少支点的履带行走机构。它由工作装置、上部机构、回转支承和行走机构等部分组成。靠电气控制系统和气压操纵系统完成整机的各种运动并实现挖掘、装载作业。

电气系统采用整流公用直流母线变频调速系统，控制上以PLC为核心，采用上位监控、现场总线、变频调速的三级控制系统。具有：对电网无扰动、允许电压波动范围宽、功率因数高等特点；装有优化挖掘特性、自适应“提一挖”等软件；同时电铲具有故障自诊断和运行状态显示、电能计量等功能。这种系统技术先进、运行可靠、传动效率高、耗能低。

WK-4D型挖掘机与40t矿用汽车配套使用。

技术特点：

- 齿轮齿条推压方式，切入性强，效率高；
- 硬齿面齿轮传动，齿轮寿命长；
- 推压机构采用气囊力矩限制器，限制推压机构的最大动载荷和保护推压机构。

WK-4D EXCAVATOR

WK-4D is mining mechanical single dipper excavator, mainly used to digging and stripping the blasted rock and ore, is widely used in water conservancy construction project. It is one of the important open-pit mine equipment, can be equipped with the annual output of 5 million tons mining.

WK-4D mining excavator is multi motor independent driven single dipper facial excavator. WK-4D adopts single beam jib boom, double dipper handle rack crowd mechanism, and less fulcrum crawler propel mechanism. It consists of working device, upper mechanism, swing support and propel mechanism etc. Using electric control system and pneumatic control system to accomplish all kinds of action and realize the digging and loading operation.

Electric system adopts Rectifier to common DC Bus-bar and variable frequency speed adjustment. The electric control, taking PLC as the core, is a 3-stage system of up-position monitoring, field bus and frequency variable speed control. It is of futures of no disturbance to power grid allowing wider range of power voltage fluctuation and high power factor. The system is loaded with software to optimize the dig/cut curve and automatically optimization of hoist and dig power distribution. The system can realize self troubleshooting and running status display, electric power calculating and so on. This system has the advantages of state-of-art technology, reliable operation, high transmission efficiency and low power consumption.

WK-4D excavator is designed to match with mining trucks with capacity of 40MT.

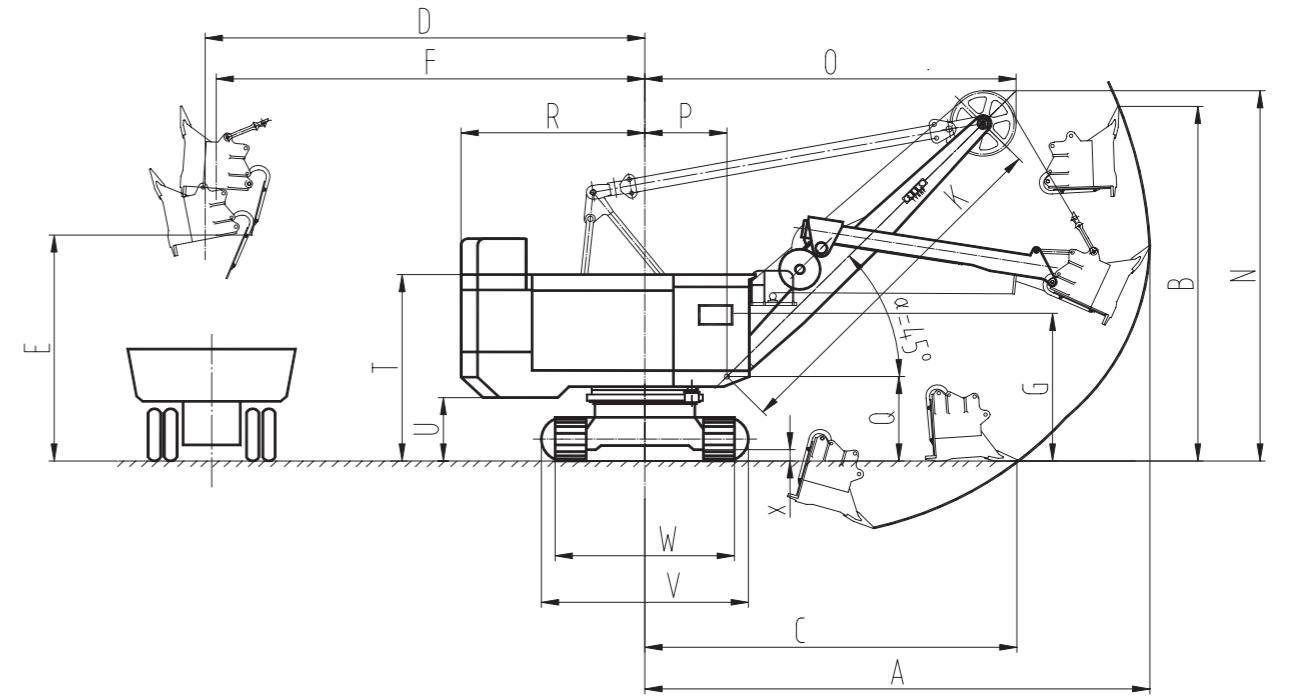
Technical characteristic:

- Gear-rack crowding, powerful penetration, high efficiency;
- The transmission gears use carburizing treatment to increase the surface hardness and lifetime;
- Using airbags torque limiter to limit maximum dynamic load and protect crowd mechanism.

作业范围 WORKING RANGES

单位: m

A	最大挖掘半径 Digging Radius (max)	14.30	E	最大卸载高度 Dumping Height (max)-Door Open	6.30
B	最大挖掘高度 Height of Cut (max)	10.10	F	最大卸载高度时的卸载半径 Dumping Radius at Max. Dumping Height	12.40
C	水平清道半径 Floor Level Radius	9.26	G	司机水平视线至停机面高度 Height-Ground to Operator's Eye Level	5.20
D	最大卸载半径 Dumping Radius (max)	12.65			



性能参数 MAIN PERFORMANCE PARAMETERS

1	额定载荷	Nominal Payload	9	t
2	斗容范围	Dipper Capacity	4~6	m ³
3	最大提升速度	Hoist Speed (max)	0.885	m/s
4	最大推压速度	Crowd Speed (max)	0.53	m/s
5	最大行走速度	Propel Speed (max)	0.43	km/h
6	最大提升力	Max. Hoist Force	450	kN
7	最大推压力	Max. Crowding Force	225	kN
8	履带最大牵引力	Max. Crawler Dragging Force	784	kN
9	最大爬坡角度	Max. Gradeability (degree)	13	°
10	履带板平均接地比压 (履带板宽度=900mm) Bearing Area-Ground Pressure (width of crawler shoes=900mm)		226	kPa
11	工作重量	Working Weight	220	t
12	配重	Counterweight	43	t

主要尺寸 GENERAL DIMENSIONS

单位: m

α	起重臂对停机平面的倾角 Boom Angle	45°	R	机棚尾部回转半径 Radius of Rear End	5.56
K	起重臂长度 Boom Length	10.50	S	机棚宽度 Width of Cab	5.63
L	起重臂顶部滑轮直径 Diameter of Boom Top Sheave	1.76	T	机棚顶至停机面的高度 Height-Ground to Top of Main Cab	5.25
M	斗杆有效长度 Effective Dipper Handle Length	0.40	U	配重箱底面至停机面高度 Height-Ground to Bottom of Counterweight	1.69
N	顶部滑轮上缘至停机平面高度 Clearance Height of Boom Point Sheave	10.75	V	履带部分总长度 Overall Length of Crawlers	6.00
O	顶部滑轮外缘至回转中心的距离 Clearance Radius of Boom Point Sheave	10.63	W	履带部分宽度 Overall Width of Crawlers	5.20
P	起重臂支脚中心至回转中心的距离 Centre of Rotation to Boom Foot Pin	2.38	X	履带驱动装置最低点距停机面高度 Height-Ground to Bottom of Crawler Drive Device	0.41
Q	起重臂支脚中心高度 Height-Ground to Boom Foot Pin	2.30			

电气参数

ELECTRIC PARAMETERS

输入电压 Supply Voltage	3KV~11KV, 3相50Hz 或60Hz	推压电动机峰值功率 (690VAC) Crowd Motor, Peak Power	75KW
应承受的最小短路容量 Minimum Short Circuit VA	6MVA	回转电动机额定功率 (690VAC) Swing Motor, Rated Power	2X65KW
供电变压器最小容量 Supply Transformer (minimum)	400KVA	回转电动机峰值功率 (690VAC) Swing Motor, Peak Power	2X81KW
提升电动机额定功率 (690VAC) Hoist Motor, Rated Power	200KW	行走电动机额定功率 (690VAC) Propel Motor, Rated Power	55KW
提升电动机峰值功率 (690VAC) Hoist Motor, Peak Power	250KW	行走电动机峰值功率 (690VAC) Propel Motor, Peak Power	68KW
推压电动机额定功率 (690VAC) Crowd Motor, Rated Power	60KW		

- 注: 1. 本产品技术参数将随着科学技术的进步和采矿工艺的发展而不断改进和完善, 恕不通知。
2. 所有参数只适用于产品推介, 不能用于对设备的工作性能进行评估。
3. 电气参数均基于额定电压690V及环境温度50℃。
4. 如需更多技术参数, 请咨询厂家。

- Note: 1. This WK-4D is reliability and improved the performances with the progress of cutting edge technology in design and the development of mining technology. All technical specification are subject to variation without notice.
2. The parameters are suitable for WK-4D standard application design and promotion, can't be used to evaluate the equipment performance.
3. The electrical parameters are based on environmental temperature 50℃ and rated voltage 690V.
4. For further information please contact our TZ office in China or consult with TZ agents at your locations.



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