The structure scheme, appearance diagram and other attached diagrams in sample and examples, there is no strict proportion requirement. (The unmarked dimension units are mm).

We can only refer to the marked weight in the manual.

To prevent accidents, all the rotation parts should be added with protective covers according to local safety regulations and laws.

Before testing, users should read instruction manual carefully.

Gearbox has been tested before delivered, users should add lubrication oil before running.

We can only refer to the marked oil in the manual. Actual oil filling level should be the same with the mark on oil immersion lens.

Lubrication oil viscosity should be selected according to working conditions and the temperature of local environment.

Users can only use high quality lubrication oil.

Note: You must conform to the following instructions

产品功能标识

<table>
<thead>
<tr>
<th>Oil glass/油镜</th>
<th>Breather/通气帽</th>
<th>Oil filler/进油孔</th>
<th>Oil drain/放油孔</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="image1" alt="Oil glass" /></td>
<td><img src="image2" alt="Breather" /></td>
<td><img src="image3" alt="Oil filler" /></td>
<td><img src="image4" alt="Oil drain" /></td>
</tr>
</tbody>
</table>

上图中的结构示意图、外形图及其他附图

仅作为参考，未严格比例要求。（未注尺寸单位均为mm）

所注重量仅为平均值，并不具有约束力。

正式交付时已处于准运行状态，运行前需加注润滑油。

本样本中注油量只作为参考值，实际注油量应以油尺上的标记为准。

润滑油粘度应按齿轮箱使用工况及使用环境温度选取。

只能采用国际知名品牌的润滑油。
1 Summary
The grate cooler is the main equipment for the cement clinker production line firing system. It not only cools, rolls and transports the hot clinker, but also is an important technical equipment of heat recovery in the cement clinker calcination system and a key equipment that directly affects the operating rate of rotary kiln.

PK special planetary gear motor is a driving product specially developed for the cooling roll crusher, which has the following characteristics:

- Direct connection between motor and gearbox, compact structure and good performance;
- The direct-connected motor is a high-efficiency motor or an ultra-efficient motor, and the motor is equipped with a thermistor and a rainproof cover; The parameters are as follows:
  - Continuous working mode S1;
  - Voltage and frequency: 380V/50Hz;
  - Insulation level: F;
  - Protection level: IP55;
  - Cooling method: IC411;
- The gear material is excellent alloy steel and processed by carburization and quenching, and all gears are grinded;
- The output adopts fluorine rubber radial skeleton seals, the standard structure is double seals, high sealing reliability;
- Highly modular design, volume production is more economical.

Note: It is recommended that the strength grade of connecting bolts of torque arm and gearbox output flange should not be lower than 10.9;

2 Type Designation

PK Series/PK系列

Size/规格
Nominal Ratio/公称速比
Motor/电机
MH (IE2) / MP (IE3)

Mounting Positions/安装方位

Special Product Code/专用产品代码

PK 11 - 360 - MH11 - B51 - ZZ1861A

2 型号表示

齿轮冷却机是水泥熟料生产线烧成系统配套的主要设备，不仅对热熟料进行冷却、破碎和输送，而且是水泥熟料烘干系统中热回收的重要工艺设备，也是直接影响回转窑运转率的关键设备。

PK专用行星齿轮减速器是为齿轮冷却机轴破碎装置专门开发的一款驱动产品，具有以下特点：

- 电机与齿轮箱直联，结构紧凑，性能良好；
- 直联电机为高效电机或超高效电机，电机配热敏电阻和防雨罩；参数说明如下：
  - 连续工作制S1；
  - 电压和频率：380V/50Hz；
  - 绝缘等级：F级；
  - 防护等级：IP55；
  - 冷却方式：IC411；
- 齿轮采用优质合金钢渗碳淬火处理，所有齿轮均进行磨齿工艺；
- 输出采用氟橡胶径向骨形油封，标准结构为双油封设计，密封可靠性较高；
- 高度模块化设计，批量生产更经济。

备注：建议扭力臂和齿轮箱输出法兰连接螺栓强度等级不低于10.9；
<table>
<thead>
<tr>
<th>型号</th>
<th>电压</th>
<th>电流</th>
<th>功率因数</th>
<th>功率</th>
<th>输出功率</th>
<th>输出电流</th>
<th>产品名称</th>
<th>备注</th>
</tr>
</thead>
<tbody>
<tr>
<td>P2A10-31.5-B5-ZZ186A</td>
<td>7.5</td>
<td>6.5</td>
<td>0.85</td>
<td>220V</td>
<td>6.5</td>
<td>220V</td>
<td>3.74</td>
<td></td>
</tr>
<tr>
<td>P2A10-31.5-B5-ZZ186A</td>
<td>7.5</td>
<td>6.5</td>
<td>0.85</td>
<td>220V</td>
<td>6.5</td>
<td>220V</td>
<td>3.74</td>
<td></td>
</tr>
<tr>
<td>P2A10-31.5-B5-ZZ186A</td>
<td>7.5</td>
<td>6.5</td>
<td>0.85</td>
<td>220V</td>
<td>6.5</td>
<td>220V</td>
<td>3.74</td>
<td></td>
</tr>
<tr>
<td>P2A10-31.5-B5-ZZ186A</td>
<td>7.5</td>
<td>6.5</td>
<td>0.85</td>
<td>220V</td>
<td>6.5</td>
<td>220V</td>
<td>3.74</td>
<td></td>
</tr>
<tr>
<td>P2A10-31.5-B5-ZZ186A</td>
<td>7.5</td>
<td>6.5</td>
<td>0.85</td>
<td>220V</td>
<td>6.5</td>
<td>220V</td>
<td>3.74</td>
<td></td>
</tr>
<tr>
<td>P2A10-31.5-B5-ZZ186A</td>
<td>7.5</td>
<td>6.5</td>
<td>0.85</td>
<td>220V</td>
<td>6.5</td>
<td>220V</td>
<td>3.74</td>
<td></td>
</tr>
<tr>
<td>P2A10-31.5-B5-ZZ186A</td>
<td>7.5</td>
<td>6.5</td>
<td>0.85</td>
<td>220V</td>
<td>6.5</td>
<td>220V</td>
<td>3.74</td>
<td></td>
</tr>
<tr>
<td>P2A10-31.5-B5-ZZ186A</td>
<td>7.5</td>
<td>6.5</td>
<td>0.85</td>
<td>220V</td>
<td>6.5</td>
<td>220V</td>
<td>3.74</td>
<td></td>
</tr>
<tr>
<td>P2A10-31.5-B5-ZZ186A</td>
<td>7.5</td>
<td>6.5</td>
<td>0.85</td>
<td>220V</td>
<td>6.5</td>
<td>220V</td>
<td>3.74</td>
<td></td>
</tr>
<tr>
<td>P2A10-31.5-B5-ZZ186A</td>
<td>7.5</td>
<td>6.5</td>
<td>0.85</td>
<td>220V</td>
<td>6.5</td>
<td>220V</td>
<td>3.74</td>
<td></td>
</tr>
<tr>
<td>P2A10-31.5-B5-ZZ186A</td>
<td>7.5</td>
<td>6.5</td>
<td>0.85</td>
<td>220V</td>
<td>6.5</td>
<td>220V</td>
<td>3.74</td>
<td></td>
</tr>
<tr>
<td>P2A10-31.5-B5-ZZ186A</td>
<td>7.5</td>
<td>6.5</td>
<td>0.85</td>
<td>220V</td>
<td>6.5</td>
<td>220V</td>
<td>3.74</td>
<td></td>
</tr>
<tr>
<td>P2A10-31.5-B5-ZZ186A</td>
<td>7.5</td>
<td>6.5</td>
<td>0.85</td>
<td>220V</td>
<td>6.5</td>
<td>220V</td>
<td>3.74</td>
<td></td>
</tr>
</tbody>
</table>
5 Lubrication Specification

The gearbox has been tested before delivered, users should add lubrication oil before running. If not specified, the gearbox is shipped without oil. The actual oil value should be done as the oil glass level. Lubrication viscosity (heavy industrial gear oil) [VG320 and VG460]

<table>
<thead>
<tr>
<th>Ambient temperature / 环境温度℃</th>
<th>-20℃~+40℃</th>
<th>+30℃~+50℃</th>
</tr>
</thead>
<tbody>
<tr>
<td>Viscosity / 粘度牌号</td>
<td>VG320</td>
<td>VG460</td>
</tr>
</tbody>
</table>

Note:
1. The gearbox is lubricated by oil. Product series P and K oil paths are blocked by oil seal, need to be refueled separately.
2. Above table viscosity is only for the temperature under 40℃.
3. Ambient temperature below -10℃ must use synthetic oil.
4. To make sure the long using life, we suggest to use synthetic oil.
5. If the ambient temperature is not in the range of the table, please consult BONENG.

5 润滑说明

齿轮箱在供货时已处于准运行状态，运行前需加注润滑油。如无特殊说明，齿轮箱发货不含油。实际注油量应以油镜上的标记为准。润滑油（重负荷工业齿轮油）粘度牌号选用【VG320和VG460】

<table>
<thead>
<tr>
<th>Oil level / 油量表（L）</th>
</tr>
</thead>
<tbody>
<tr>
<td>Product Size</td>
</tr>
<tr>
<td>P</td>
</tr>
<tr>
<td>K</td>
</tr>
</tbody>
</table>

注：
1. 齿轮箱采用浸油润滑，产品系列P和K油路不通，用油封隔路，需分别加油。
2. 上表中粘度牌号为40℃温度下的ISO—VG粘度。
3. 环境温度低于-10℃必须使用合成油。
4. 为保证产品寿命，实际使用中建议使用合成油。
5. 若环境温度超出上述范围，敬请垂询。
Distributors for Australia & New Zealand
MOTION TECHNOLOGIES PTY LTD
24/22-30 Northumberland Road
Caringbah NSW 2229 Australia
Phone: (02) 9524 4762
Fax: (02) 9525 3878
sales@motiontech.com.au
www.motiontech.com.au
© 27/02/20