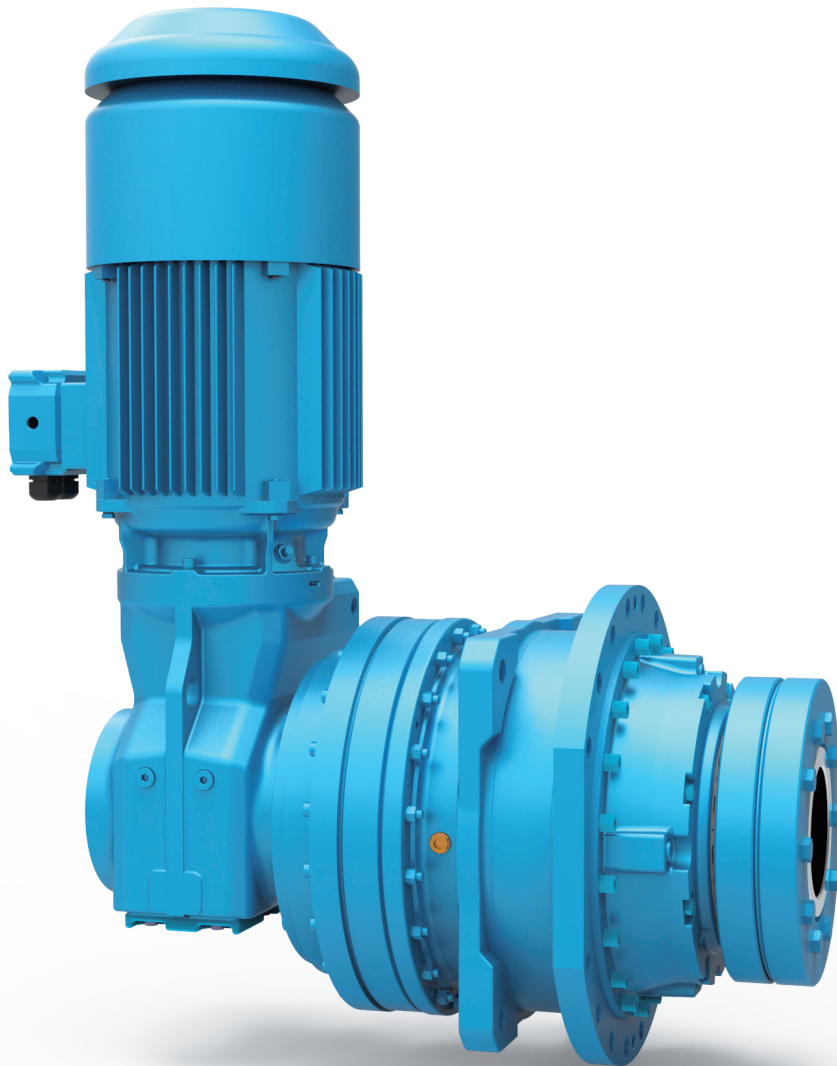


**BONENG**



**博能** PK Planetary Gearmotor For Cooling Roll Crusher  
**博能** PK 篦冷机辊破装置专用行星齿轮马达

3/2019

## Note: You must conform to the following instructions 注意事项！必须严格遵守以下各项！

- ◆ 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.
- ◆ 样本中的结构示意图、外形图及其他附图只属范例，无严格比例要求。（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。
- ◆ 为防止意外事故发生，所有旋转部件均按照使用者所在国家和地区的安全规范由购置方加罩保护。
- ◆ 试车之前必须认真阅读使用说明书。
- ◆ 齿轮箱在供货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。

### Product Function Mark



Oil glass



Breather



Oil filler



Oil drain

### 产品功能标识



油 镜



通气帽



进油孔



放油孔

# Contents

.....	Summary	01
.....	Type Designation	01
.....	Selection Table	02
.....	Outline Dimensions	04
.....	Lubrication Specification	07

# 目录

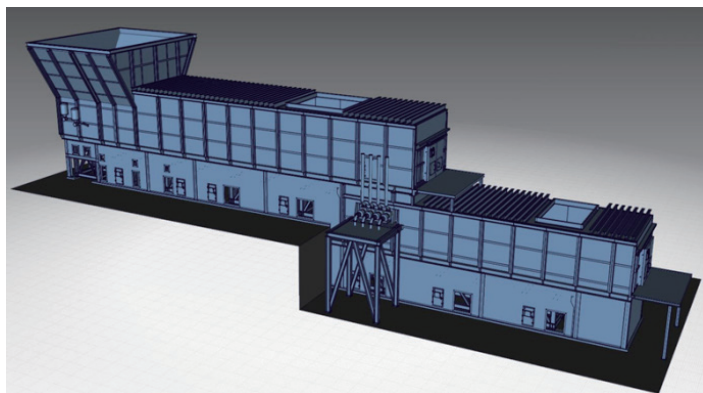
▲-----	概述	01
▲-----	型号表示	01
▲-----	选型表	02
▲-----	外形尺寸图	04
▲-----	润滑说明	07

## 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 thermostat and a rainproof cover; The parameters are as follows:
  - I Continuous working mode S1;
  - II Voltage and frequency: 380V/50Hz;
  - III Insulation level: F;
  - IV Protection level: IP55;
  - V Cooling method: IC411;
- ◆ The gears 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;



## 1 概述

篦冷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、辊破和输送，而且是水泥熟料煅烧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专用行星齿轮马达是为篦冷机辊破装置专门开发的一款驱动产品，具有以下特点：

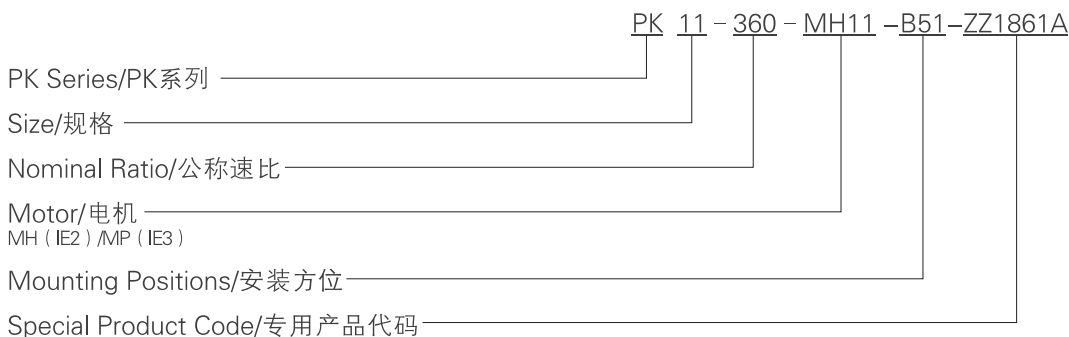
- ◆ 电机与齿轮箱直联，结构紧凑，性能良好；
- ◆ 直联电机为高效电机或超高效电机，电机标配热敏电阻和防雨罩；参数说明如下：
  - I 连续工作制S1；
  - II 电压和频率：380V/50Hz；
  - III 绝缘等级：F级；
  - IV 防护等级：IP55；
  - V 冷却方式：IC411；
- ◆ 齿轮采用优质合金钢渗碳淬火处理，所有齿轮均进行磨齿工艺；
- ◆ 输出采用氟橡胶径向骨架油封，标准结构为双油封设计，密封可靠性较高；
- ◆ 高度的模块化设计，批量生产更经济。

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；



## 2 Type Designation

## 2 型号表示



### 3 Selection Table

### 3 选型表

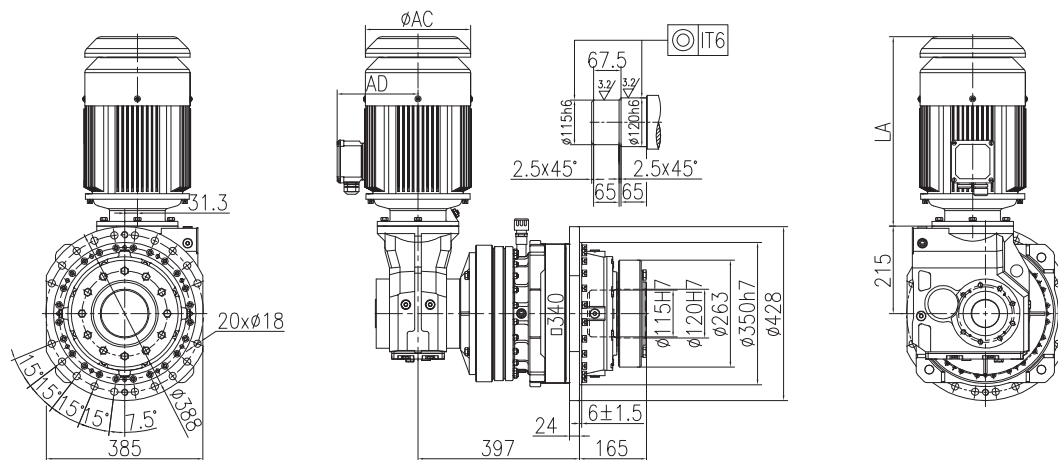
$P_M$ kW	$n_2$ r/min	$T_2$ N·m	$i_{ex}$	$T_{2N}$ N·m	SF	P Series Planetary Gearbox	K Helical-Bevel Gearmotor	PK Order Type	Weight kg	
4	3.74	9008	386.16	22000	2.44	P2NA09-31.5-B5-ZZ1861A	KF77A-12.5-MH4+E30+E80+E72-B52-180° -ZZ1861A	PK09-400-MH4-B51-ZZ1861A	286	
	3.77	8974	386.16	22000	2.45	P2NA09-31.5-B5-ZZ1861A	KF77A-12.5-MP4+E30+E80+E72-B52-180° -ZZ1861A	PK09-400-MP4-B51-ZZ1861A	290	
	4.15	8116	347.92	22000	2.71	P2NA09-28-B5-ZZ1861A	KF77A-12.5-MH4+E30+E80+E72-B52-180° -ZZ1861A	PK09-360-MH4-B51-ZZ1861A	286	
	4.18	8085	347.92	22000	2.72	P2NA09-28-B5-ZZ1861A	KF77A-12.5-MP4+E30+E80+E72-B52-180° -ZZ1861A	PK09-360-MP4-B51-ZZ1861A	290	
	4.31	7820	335.22	22000	2.81	P2NA09-40-B5-ZZ1861A	KF77A-8.1-MH4+E30+E80+E72-B52-180° -ZZ1861A	PK09-320-MH4-B51-ZZ1861A	286	
	4.34	7790	335.22	22000	2.82	P2NA09-40-B5-ZZ1861A	KF77A-8.1-MP4+E30+E80+E72-B52-180° -ZZ1861A	PK09-320-MP4-B51-ZZ1861A	290	
5.5	3.77	12318	386.16	31000	2.52	P2NA10-31.5-B5-ZZ1861A	KF77A-12.5-MH5.5+E30+E80+E72-B52-180° -ZZ1861A	PK10-400-MH5.5-B51-ZZ1861A	348	
	3.79	12249	386.16	31000	2.53	P2NA10-31.5-B5-ZZ1861A	KF77A-12.5-MP5.5+E30+E80+E72-B52-180° -ZZ1861A	PK10-400-MP5.5-B51-ZZ1861A	358	
	3.77	12318	386.16	22000	1.79	P2NA09-31.5-B5-ZZ1861A	KF77A-12.5-MH5.5+E30+E80+E72-B52-180° -ZZ1861A	PK09-400-MH5.5-B51-ZZ1861A	301	
	3.79	12249	386.16	22000	1.80	P2NA09-31.5-B5-ZZ1861A	KF77A-12.5-MP5.5+E30+E80+E72-B52-180° -ZZ1861A	PK09-400-MP5.5-B51-ZZ1861A	311	
	4.18	11098	347.92	22000	1.98	P2NA09-28-B5-ZZ1861A	KF77A-12.5-MH5.5+E30+E80+E72-B52-180° -ZZ1861A	PK09-360-MH5.5-B51-ZZ1861A	301	
	4.21	11036	347.92	22000	1.99	P2NA09-28-B5-ZZ1861A	KF77A-12.5-MP5.5+E30+E80+E72-B52-180° -ZZ1861A	PK09-360-MP5.5-B51-ZZ1861A	311	
	4.34	10693	335.22	22000	2.06	P2NA09-40-B5-ZZ1861A	KF77A-8.1-MH5.5+E30+E80+E72-B52-180° -ZZ1861A	PK09-320-MH5.5-B51-ZZ1861A	301	
	4.37	10633	335.22	22000	2.07	P2NA09-40-B5-ZZ1861A	KF77A-8.1-MP5.5+E30+E80+E72-B52-180° -ZZ1861A	PK09-320-MP5.5-B51-ZZ1861A	311	
	5.03	10446	289.35	22000	2.11	P2NA09-35.5-B5-ZZ1861A	KF77A-8.1-MH5.5+E30+E80+E72-B52-180° -ZZ1861A	PK09-280-MH5.5-B51-ZZ1861A	301	
	5.06	10388	289.35	22000	2.12	P2NA09-35.5-B5-ZZ1861A	KF77A-8.1-MP5.5+E30+E80+E72-B52-180° -ZZ1861A	PK09-280-MP5.5-B51-ZZ1861A	311	
	5.68	8165	255.99	22000	2.69	P2NA09-31.5-B5-ZZ1861A	KF77A-8.1-MH5.5+E30+E80+E72-B52-180° -ZZ1861A	PK09-250-MH5.5-B51-ZZ1861A	301	
	5.72	8120	255.99	22000	2.71	P2NA09-31.5-B5-ZZ1861A	KF77A-8.1-MP5.5+E30+E80+E72-B52-180° -ZZ1861A	PK09-250-MP5.5-B51-ZZ1861A	311	
	6.31	7357	230.64	22000	2.99	P2NA09-28-B5-ZZ1861A	KF77A-8.1-MH5.5+E30+E80+E72-B52-180° -ZZ1861A	PK09-225-MH5.5-B51-ZZ1861A	301	
	6.35	7316	230.64	22000	3.01	P2NA09-28-B5-ZZ1861A	KF77A-8.1-MP5.5+E30+E80+E72-B52-180° -ZZ1861A	PK09-225-MP5.5-B51-ZZ1861A	311	
7.5	3.67	17230	396.33	42000	2.44	P2NA11-31.5-B5-ZZ1861A	KF87A-12.5-MH7.5+E30+E80+E72-B52-180° -ZZ1861A	PK11-400-MH7.5-B51-ZZ1861A	528	
	3.70	17125	396.33	42000	2.45	P2NA11-31.5-B5-ZZ1861A	KF87A-12.5-MP7.5+E30+E80+E72-B52-180° -ZZ1861A	PK11-400-MP7.5-B51-ZZ1861A	536	
	3.77	16788	386.16	31000	1.85	P2NA10-31.5-B5-ZZ1861A	KF77A-12.5-MH7.5+E30+E80+E72-B52-180° -ZZ1861A	PK10-400-MH7.5-B51-ZZ1861A	361	
	3.79	16685	386.16	31000	1.86	P2NA10-31.5-B5-ZZ1861A	KF77A-12.5-MP7.5+E30+E80+E72-B52-180° -ZZ1861A	PK10-400-MP7.5-B51-ZZ1861A	369	
	4.18	15125	347.92	31000	2.05	P2NA10-28-B5-ZZ1861A	KF77A-12.5-MH7.5+E30+E80+E72-B52-180° -ZZ1861A	PK10-360-MH7.5-B51-ZZ1861A	361	
	4.21	15033	347.92	31000	2.06	P2NA10-28-B5-ZZ1861A	KF77A-12.5-MP7.5+E30+E80+E72-B52-180° -ZZ1861A	PK10-360-MP7.5-B51-ZZ1861A	369	
	4.34	16493	335.22	31000	1.88	P2NA10-40-B5-ZZ1861A	KF77A-8.1-MH7.5+E30+E80+E72-B52-180° -ZZ1861A	PK10-320-MH7.5-B51-ZZ1861A	361	
	4.37	16392	335.22	31000	1.89	P2NA10-40-B5-ZZ1861A	KF77A-8.1-MP7.5+E30+E80+E72-B52-180° -ZZ1861A	PK10-320-MP7.5-B51-ZZ1861A	369	
	5.03	12579	289.35	31000	2.46	P2NA10-35.5-B5-ZZ1861A	KF77A-8.1-MH7.5+E30+E80+E72-B52-180° -ZZ1861A	PK10-280-MH7.5-B51-ZZ1861A	361	
	5.06	12502	289.35	31000	2.48	P2NA10-35.5-B5-ZZ1861A	KF77A-8.1-MP7.5+E30+E80+E72-B52-180° -ZZ1861A	PK10-280-MP7.5-B51-ZZ1861A	369	
	5.03	12579	289.35	22000	1.75	P2NA09-35.5-B5-ZZ1861A	KF77A-8.1-MH7.5+E30+E80+E72-B52-180° -ZZ1861A	PK09-280-MH7.5-B51-ZZ1861A	314	
	5.06	12502	289.35	22000	1.76	P2NA09-35.5-B5-ZZ1861A	KF77A-8.1-MP7.5+E30+E80+E72-B52-180° -ZZ1861A	PK09-280-MP7.5-B51-ZZ1861A	322	
	5.68	11129	255.99	22000	1.98	P2NA09-31.5-B5-ZZ1861A	KF77A-8.1-MH7.5+E30+E80+E72-B52-180° -ZZ1861A	PK09-250-MH7.5-B51-ZZ1861A	314	
	5.72	11061	255.99	22000	1.99	P2NA09-31.5-B5-ZZ1861A	KF77A-8.1-MP7.5+E30+E80+E72-B52-180° -ZZ1861A	PK09-250-MP7.5-B51-ZZ1861A	322	
	6.31	10026	230.64	22000	2.19	P2NA09-28-B5-ZZ1861A	KF77A-8.1-MH7.5+E30+E80+E72-B52-180° -ZZ1861A	PK09-225-MH7.5-B51-ZZ1861A	314	
	6.35	9965	230.64	22000	2.21	P2NA09-28-B5-ZZ1861A	KF77A-8.1-MP7.5+E30+E80+E72-B52-180° -ZZ1861A	PK09-225-MP7.5-B51-ZZ1861A	322	
	11	3.82	24344	382.65	60000	2.46	P2NA12-31.5-B5-ZZ1861A	KF87A-12.5-MH11+E30+E80+E72-B52-180° -ZZ1861A	PK12-400-MH11-B51-ZZ1861A	675
		3.85	24073	382.65	60000	2.49	P2NA12-31.5-B5-ZZ1861A	KF87A-12.5-MP11+E30+E80+E72-B52-180° -ZZ1861A	PK12-400-MP11-B51-ZZ1861A	683
4.07		22811	358.56	42000	1.84	P2NA11-28-B5-ZZ1861A	KF87A-12.5-MH11+E30+E80+E72-B52-180° -ZZ1861A	PK11-360-MH11-B51-ZZ1861A	528	
4.11		22558	358.56	42000	1.86	P2NA11-28-B5-ZZ1861A	KF87A-12.5-MP11+E30+E80+E72-B52-180° -ZZ1861A	PK11-360-MP11-B51-ZZ1861A	536	
4.22		22025	346.2	60000	2.72	P2NA12-28-B5-ZZ1861A	KF87A-12.5-MH11+E30+E80+E72-B52-180° -ZZ1861A	PK12-360-MH11-B51-ZZ1861A	675	
4.26		21780	346.2	60000	2.75	P2NA12-28-B5-ZZ1861A	KF87A-12.5-MP11+E30+E80+E72-B52-180° -ZZ1861A	PK12-360-MP11-B51-ZZ1861A	683	
4.52		20537	322.82	42000	2.05	P2NA11-40-B5-ZZ1861A	KF87A-8.1-MH11+E30+E80+E72-B52-180° -ZZ1861A	PK11-320-MH11-B51-ZZ1861A	528	
4.57		20309	322.82	42000	2.07	P2NA11-40-B5-ZZ1861A	KF87A-8.1-MP11+E30+E80+E72-B52-180° -ZZ1861A	PK11-320-MP11-B51-ZZ1861A	536	
5.20		17872	280.93	42000	2.35	P2NA11-35.5-B5-ZZ1861A	KF87A-8.1-MH11+E30+E80+E72-B52-180° -ZZ1861A	PK11-280-MH11-B51-ZZ1861A	528	
5.25		17674	280.93	42000	2.38	P2NA11-35.5-B5-ZZ1861A	KF87A-8.1-MP11+E30+E80+E72-B52-180° -ZZ1861A	PK11-280-MP11-B51-ZZ1861A	536	
5.84		15903	249.97	42000	2.64	P2NA11-31.5-B5-ZZ1861A	KF87A-8.1-MH11+E30+E80+E72-B52-180° -ZZ1861A	PK11-250-MH11-B51-ZZ1861A	528	
5.90		15726	249.97	42000	2.67	P2NA11-31.5-B5-ZZ1861A	KF87A-8.1-MP11+E30+E80+E72-B52-180° -ZZ1861A	PK11-250-MP11-B51-ZZ1861A	536	
6.46		14387	226.15	42000	2.92	P2NA11-28-B5-ZZ1861A	KF87A-8.1-MH11+E30+E80+E72-B52-180° -ZZ1861A	PK11-225-MH11-B51-ZZ1861A	528	
6.52		14227	226.15	42000	2.95	P2NA11-28-B5-ZZ1861A	KF87A-8.1-MP11+E30+E80+E72-B52-180° -ZZ1861A	PK11-225-MP11-B51-ZZ1861A	536	

P <sub>M</sub> kW	n <sub>2</sub> r/min	T <sub>2</sub> N·m	i <sub>ex</sub>	T <sub>2N</sub> N·m	SF	P Series Planetary Gearbox	K Helical-Bevel Gearmotor	PK Order Type	Weight Kg
15	3.82	33169	382.65	60000	1.81	P2NA12-31.5-B5-ZZ1861A	KF87A-12.5-MH15+E30+E80+E72-B52-180° -ZZ1861A	PK12-400-MH15-B51-ZZ1861A	693
	3.85	32831	382.65	60000	1.83	P2NA12-31.5-B5-ZZ1861A	KF87A-12.5-MP15+E30+E80+E72-B52-180° -ZZ1861A	PK12-400-MP15-B51-ZZ1861A	715
	4.22	30009	346.20	60000	2.00	P2NA12-28-B5-ZZ1861A	KF87A-12.5-MH15+E30+E80+E72-B52-180° -ZZ1861A	PK12-360-MH15-B51-ZZ1861A	693
	4.26	29703	346.20	60000	2.02	P2NA12-28-B5-ZZ1861A	KF87A-12.5-MP15+E30+E80+E72-B52-180° -ZZ1861A	PK12-360-MP15-B51-ZZ1861A	715
	4.68	27017	311.69	60000	2.22	P2NA12-40-B5-ZZ1861A	KF87A-8.1-MH15+E30+E80+E72-B52-180° -ZZ1861A	PK12-320-MH15-B51-ZZ1861A	693
	4.73	26742	311.69	60000	2.24	P2NA12-40-B5-ZZ1861A	KF87A-8.1-MP15+E30+E80+E72-B52-180° -ZZ1861A	PK12-320-MP15-B51-ZZ1861A	715
	5.20	24351	280.93	42000	1.72	P2NA11-35.5-B5-ZZ1861A	KF87A-8.1-MH15+E30+E80+E72-B52-180° -ZZ1861A	PK11-280-MH15-B51-ZZ1861A	587
	5.25	24103	280.93	42000	1.74	P2NA11-35.5-B5-ZZ1861A	KF87A-8.1-MP15+E30+E80+E72-B52-180° -ZZ1861A	PK11-280-MP15-B51-ZZ1861A	609
	5.38	23512	271.24	60000	2.55	P2NA12-35.5-B5-ZZ1861A	KF87A-8.1-MH15+E30+E80+E72-B52-180° -ZZ1861A	PK12-280-MH15-B51-ZZ1861A	693
	5.44	23272	271.24	60000	2.58	P2NA12-35.5-B5-ZZ1861A	KF87A-8.1-MP15+E30+E80+E72-B52-180° -ZZ1861A	PK12-280-MP15-B51-ZZ1861A	715
	5.84	21668	249.97	42000	1.94	P2NA11-31.5-B5-ZZ1861A	KF87A-8.1-MH15+E30+E80+E72-B52-180° -ZZ1861A	PK11-250-MH15-B51-ZZ1861A	587
	5.90	21447	249.97	42000	1.96	P2NA11-31.5-B5-ZZ1861A	KF87A-8.1-MP15+E30+E80+E72-B52-180° -ZZ1861A	PK11-250-MP15-B51-ZZ1861A	609
	6.05	20920	241.34	60000	2.87	P2NA12-31.5-B5-ZZ1861A	KF87A-8.1-MH15+E30+E80+E72-B52-180° -ZZ1861A	PK12-250-MH15-B51-ZZ1861A	693
	6.11	20706	241.34	60000	2.90	P2NA12-31.5-B5-ZZ1861A	KF87A-8.1-MP15+E30+E80+E72-B52-180° -ZZ1861A	PK12-250-MP15-B51-ZZ1861A	715
	6.46	19603	226.15	42000	2.14	P2NA11-28-B5-ZZ1861A	KF87A-8.1-MH15+E30+E80+E72-B52-180° -ZZ1861A	PK11-225-MH15-B51-ZZ1861A	587
6.52	19403	226.15	42000	2.16	P2NA11-28-B5-ZZ1861A	KF87A-8.1-MP15+E30+E80+E72-B52-180° -ZZ1861A	PK11-225-MP15-B51-ZZ1861A	609	
18.5	3.85	40576	382.04	83000	2.05	P2NA13-31.5-B5-ZZ1861A	KF97A-12.5-MH18.5+E30+E80+E72-B52-180° -ZZ1861A	PK13-400-MH18.5-B51-ZZ1861A	971
	3.86	40441	382.04	83000	2.05	P2NA13-31.5-B5-ZZ1861A	KF97A-12.5-MP18.5+E30+E80+E72-B52-180° -ZZ1861A	PK13-400-MP18.5-B51-ZZ1861A	989
	4.27	36558	344.21	83000	2.27	P2NA13-28-B5-ZZ1861A	KF97A-12.5-MH18.5+E30+E80+E72-B52-180° -ZZ1861A	PK13-360-MH18.5-B51-ZZ1861A	971
	4.29	36436	344.21	83000	2.28	P2NA13-28-B5-ZZ1861A	KF97A-12.5-MP18.5+E30+E80+E72-B52-180° -ZZ1861A	PK13-360-MP18.5-B51-ZZ1861A	989
	4.51	34580	325.59	83000	2.40	P2NA13-40-B5-ZZ1861A	KF97A-8.1-MH18.5+E30+E80+E72-B52-180° -ZZ1861A	PK13-320-MH18.5-B51-ZZ1861A	971
	4.53	34465	325.59	83000	2.41	P2NA13-40-B5-ZZ1861A	KF97A-8.1-MP18.5+E30+E80+E72-B52-180° -ZZ1861A	PK13-320-MP18.5-B51-ZZ1861A	989
22	3.85	48239	382.04	117000	2.43	P2NA14-31.5-B5-ZZ1861A	KF97A-12.5-MH22+E30+E80+E72-B52-180° -ZZ1861A	PK14-400-MH22-B51-ZZ1861A	1183
	3.86	48071	382.04	117000	2.43	P2NA14-31.5-B5-ZZ1861A	KF97A-12.5-MP22+E30+E80+E72-B52-180° -ZZ1861A	PK14-400-MP22-B51-ZZ1861A	1199
	3.85	48239	382.04	83000	1.72	P2NA13-31.5-B5-ZZ1861A	KF97A-12.5-MH22+E30+E80+E72-B52-180° -ZZ1861A	PK13-400-MH22-B51-ZZ1861A	993
	3.86	48071	382.04	83000	1.73	P2NA13-31.5-B5-ZZ1861A	KF97A-12.5-MP22+E30+E80+E72-B52-180° -ZZ1861A	PK13-400-MP22-B51-ZZ1861A	1009
	4.27	43462	344.21	117000	2.69	P2NA14-28-B5-ZZ1861A	KF97A-12.5-MH22+E30+E80+E72-B52-180° -ZZ1861A	PK14-360-MH22-B51-ZZ1861A	1183
	4.29	43310	344.21	117000	2.70	P2NA14-28-B5-ZZ1861A	KF97A-12.5-MP22+E30+E80+E72-B52-180° -ZZ1861A	PK14-360-MP22-B51-ZZ1861A	1199
	4.27	43462	344.21	83000	1.91	P2NA13-28-B5-ZZ1861A	KF97A-12.5-MH22+E30+E80+E72-B52-180° -ZZ1861A	PK13-360-MH22-B51-ZZ1861A	993
	4.29	43310	344.21	83000	1.92	P2NA13-28-B5-ZZ1861A	KF97A-12.5-MP22+E30+E80+E72-B52-180° -ZZ1861A	PK13-360-MP22-B51-ZZ1861A	1009
	4.51	40967	325.59	83000	2.03	P2NA13-40-B5-ZZ1861A	KF97A-8.1-MH22+E30+E80+E72-B52-180° -ZZ1861A	PK13-320-MH22-B51-ZZ1861A	993
	4.53	40967	325.59	83000	2.03	P2NA13-40-B5-ZZ1861A	KF97A-8.1-MP22+E30+E80+E72-B52-180° -ZZ1861A	PK13-320-MP22-B51-ZZ1861A	1009
	5.23	35485	281.03	83000	2.34	P2NA13-35.5-B5-ZZ1861A	KF97A-8.1-MH22+E30+E80+E72-B52-180° -ZZ1861A	PK13-280-MH22-B51-ZZ1861A	993
	5.25	36361	281.03	83000	2.28	P2NA13-35.5-B5-ZZ1861A	KF97A-8.1-MP22+E30+E80+E72-B52-180° -ZZ1861A	PK13-280-MP22-B51-ZZ1861A	1009
	5.91	31394	248.63	83000	2.64	P2NA13-31.5-B5-ZZ1861A	KF97A-8.1-MH22+E30+E80+E72-B52-180° -ZZ1861A	PK13-250-MH22-B51-ZZ1861A	993
	5.93	31284	248.63	83000	2.65	P2NA13-31.5-B5-ZZ1861A	KF97A-8.1-MP22+E30+E80+E72-B52-180° -ZZ1861A	PK13-250-MP22-B51-ZZ1861A	1009
	6.56	28285	224.01	83000	2.93	P2NA13-28-B5-ZZ1861A	KF97A-8.1-MH22+E30+E80+E72-B52-180° -ZZ1861A	PK13-225-MH22-B51-ZZ1861A	993
6.58	28186	224.01	83000	2.94	P2NA13-28-B5-ZZ1861A	KF97A-8.1-MP22+E30+E80+E72-B52-180° -ZZ1861A	PK13-225-MP22-B51-ZZ1861A	1009	
30	3.85	65793	382.04	117000	1.78	P2NA14-31.5-B5-ZZ1861A	KF97A-12.5-MH30+E30+E80+E72-B52-180° -ZZ1861A	PK14-400-MH30-B51-ZZ1861A	1239
	3.86	65557	382.04	117000	1.78	P2NA14-31.5-B5-ZZ1861A	KF97A-12.5-MP30+E30+E80+E72-B52-180° -ZZ1861A	PK14-400-MP30-B51-ZZ1861A	1259
	4.27	59277	344.21	117000	1.97	P2NA14-28-B5-ZZ1861A	KF97A-12.5-MH30+E30+E80+E72-B52-180° -ZZ1861A	PK14-360-MH30-B51-ZZ1861A	1239
	4.29	59064	344.21	117000	1.98	P2NA14-28-B5-ZZ1861A	KF97A-12.5-MP30+E30+E80+E72-B52-180° -ZZ1861A	PK14-360-MP30-B51-ZZ1861A	1259
	4.51	56071	325.59	117000	2.09	P2NA14-40-B5-ZZ1861A	KF97A-8.1-MH30+E30+E80+E72-B52-180° -ZZ1861A	PK14-320-MH30-B51-ZZ1861A	1239
	4.53	55870	325.59	117000	2.09	P2NA14-40-B5-ZZ1861A	KF97A-8.1-MP30+E30+E80+E72-B52-180° -ZZ1861A	PK14-320-MP30-B51-ZZ1861A	1259
	5.23	48397	281.03	117000	2.42	P2NA14-35.5-B5-ZZ1861A	KF97A-8.1-MH30+E30+E80+E72-B52-180° -ZZ1861A	PK14-280-MH30-B51-ZZ1861A	1239
	5.25	48223	281.03	117000	2.43	P2NA14-35.5-B5-ZZ1861A	KF97A-8.1-MP30+E30+E80+E72-B52-180° -ZZ1861A	PK14-280-MP30-B51-ZZ1861A	1259
	5.23	48397	281.03	83000	1.71	P2NA13-35.5-B5-ZZ1861A	KF97A-8.1-MH30+E30+E80+E72-B52-180° -ZZ1861A	PK13-280-MH30-B51-ZZ1861A	1049
	5.25	48223	281.03	83000	1.72	P2NA13-35.5-B5-ZZ1861A	KF97A-8.1-MP30+E30+E80+E72-B52-180° -ZZ1861A	PK13-280-MP30-B51-ZZ1861A	1069
	5.91	42818	248.63	83000	1.94	P2NA13-31.5-B5-ZZ1861A	KF97A-8.1-MH30+E30+E80+E72-B52-180° -ZZ1861A	PK13-250-MH30-B51-ZZ1861A	1049
	5.93	42664	248.63	83000	1.95	P2NA13-31.5-B5-ZZ1861A	KF97A-8.1-MP30+E30+E80+E72-B52-180° -ZZ1861A	PK13-250-MP30-B51-ZZ1861A	1069
	6.56	38577	224.01	83000	2.15	P2NA13-28-B5-ZZ1861A	KF97A-8.1-MH30+E30+E80+E72-B52-180° -ZZ1861A	PK13-225-MH30-B51-ZZ1861A	1049
	6.58	38439	224.01	83000	2.16	P2NA13-28-B5-ZZ1861A	KF97A-8.1-MP30+E30+E80+E72-B52-180° -ZZ1861A	PK13-225-MP30-B51-ZZ1861A	1069

**4 Outline Dimensions**

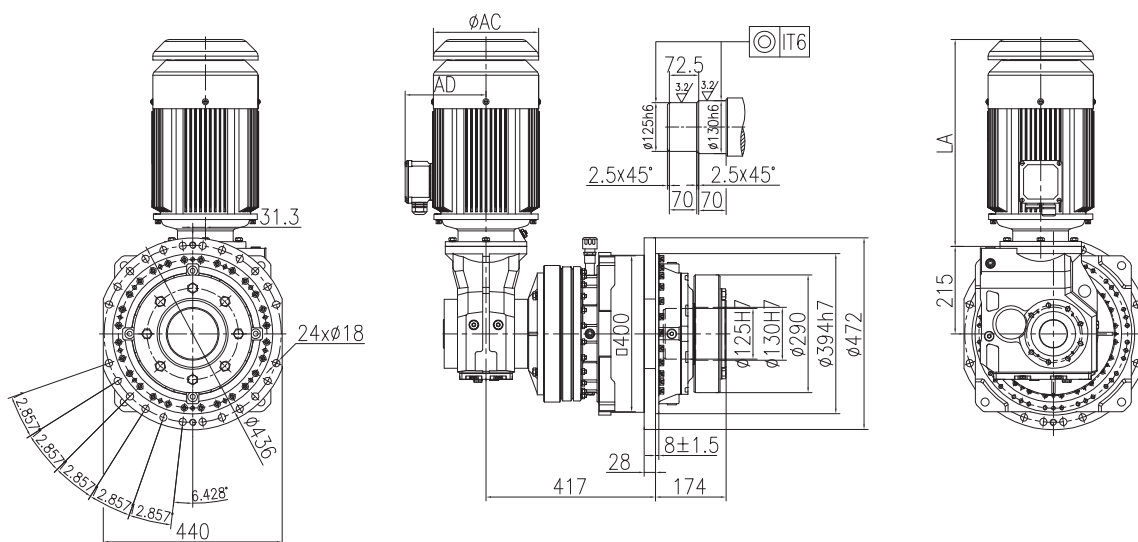
**4 外形尺寸图**

PK09



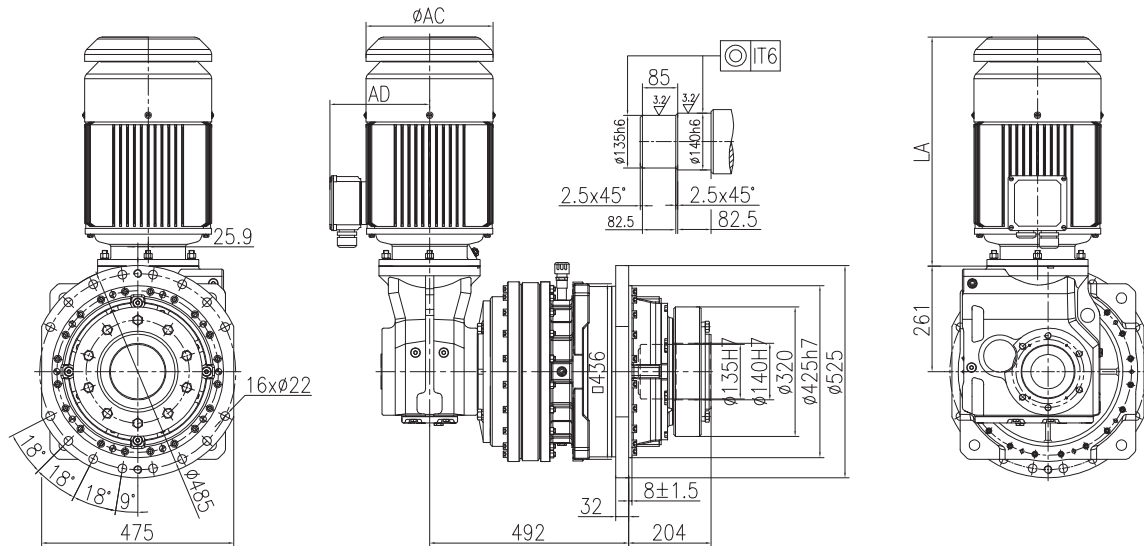
Motor	AC(mm)	AD(mm)	LA(mm)
MH4	220	178	496
MP4	220	178	496
MH5.5	259	199	466
MP5.5	259	199	509
MH7.5	259	199	509
MP7.5	259	199	547

PK10



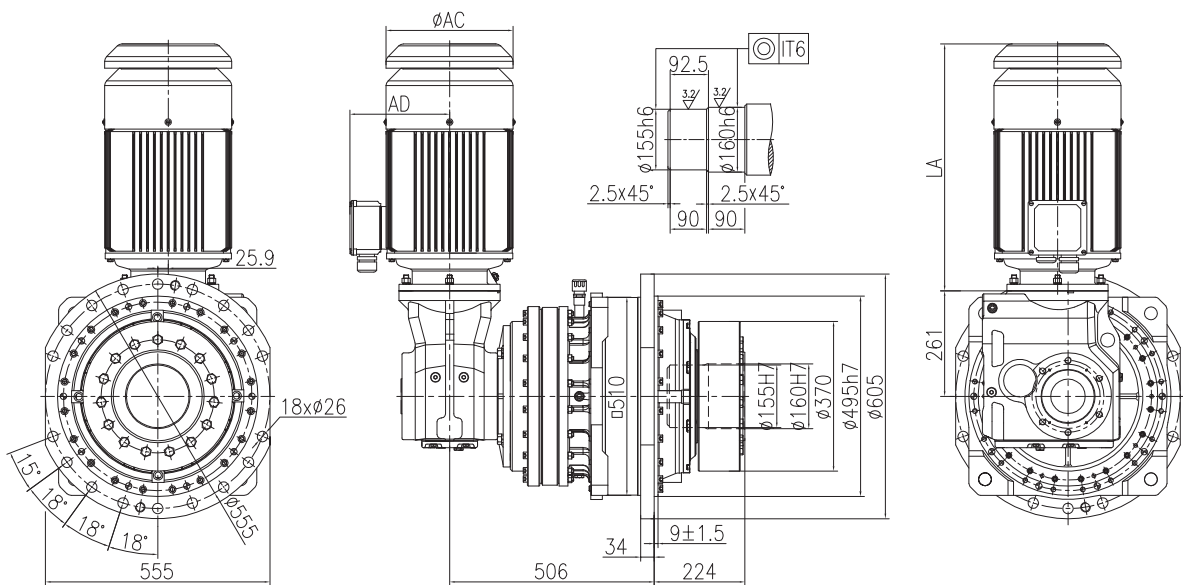
Motor	AC(mm)	AD(mm)	LA(mm)
MH5.5	259	199	466
MP5.5	259	199	509
MH7.5	259	199	509
MP7.5	259	199	547

## PK11



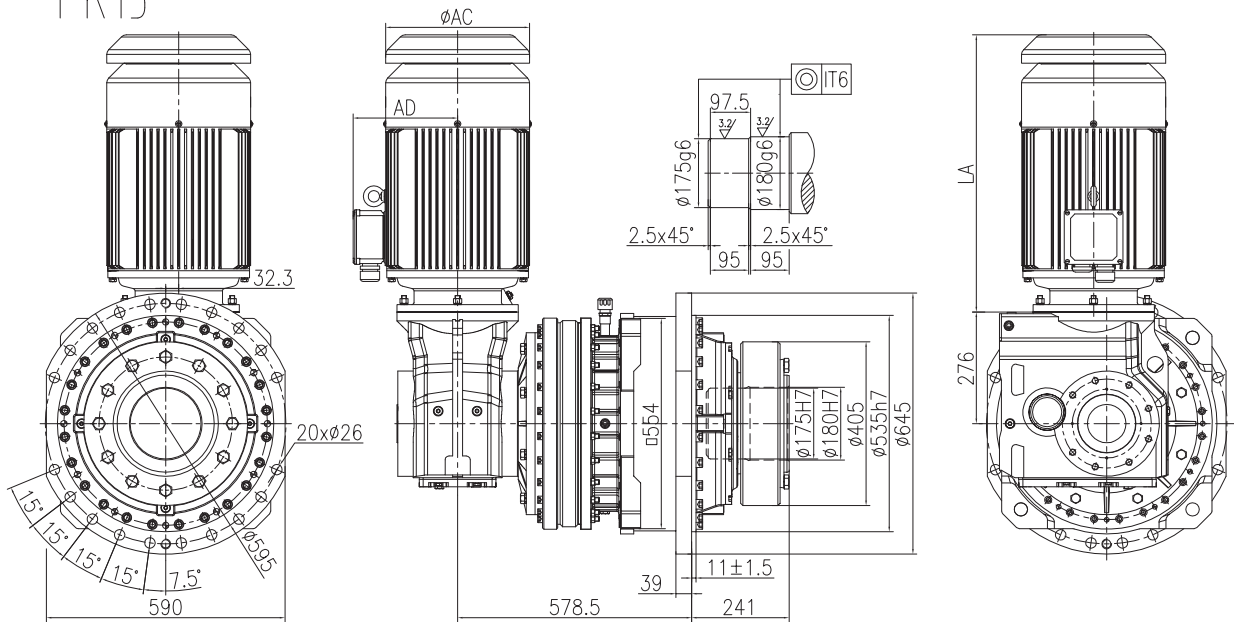
Motor	AC(mm)	AD(mm)	LA(mm)
MH7.5	259	199	501
MP7.5	259	199	539
MH11	314	247	566
MP11	314	247	610
MH15	314	247	610
MP15	314	247	640

## PK12



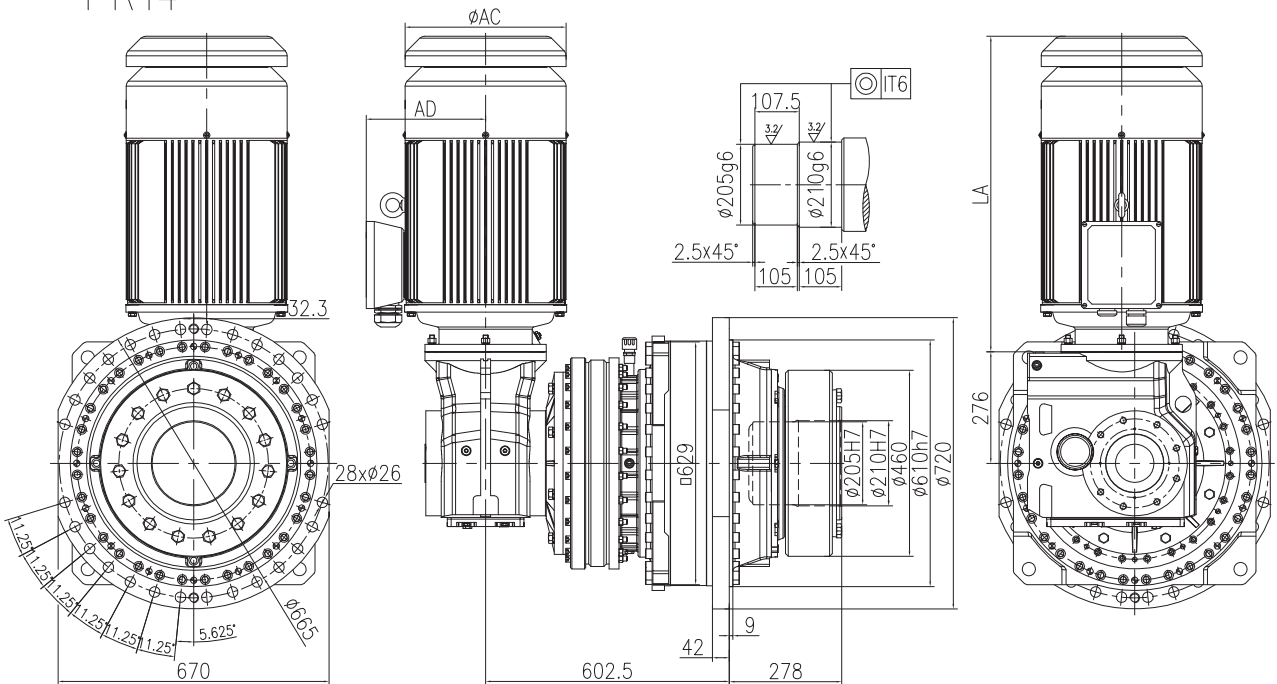
Motor	AC(mm)	AD(mm)	LA(mm)
MH11	314	247	566
MP11	314	247	610
MH15	314	247	610
MP15	314	247	640

## PK13



Motor	AC(mm)	AD(mm)	LA(mm)
MH18.5	356	259	685
MP18.5	356	259	685
MH22	356	259	733
MP22	356	259	733
MH30	398	295	780
MP30	398	295	780

## PK14



Motor	AC(mm)	AD(mm)	LA(mm)
MH22	356	259	733
MP22	356	259	733
MH30	398	295	780
MP30	398	295	780

## 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]

## 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】

Ambient temperature °C	-20°C ~ +40°C	+30°C ~ +50°C
Viscosity	VG320	VG460

Note:

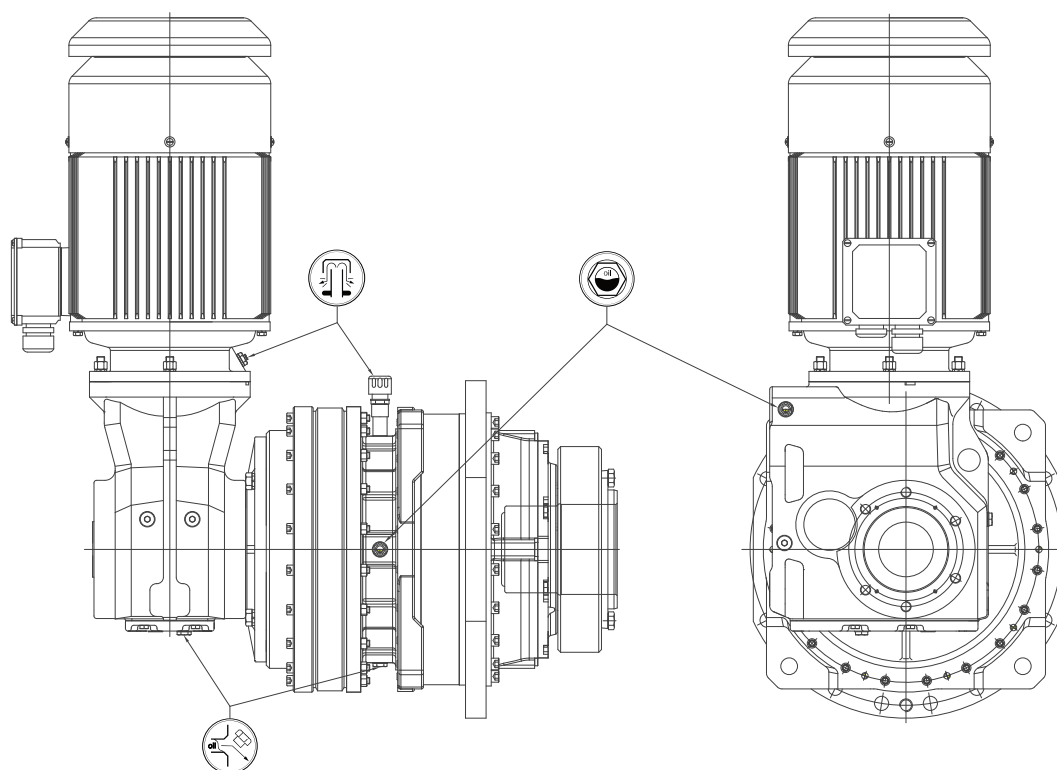
1. The gearbox is lubricated by oil. Product series P and K oil paths are blocked by oil seal, need to be refueled separately.
2. Above table viscosity is only for the temperature under 40°C.
3. Ambient temperature below -10°C must use synthetic oil.
4. To make sure the long using life, we suggest to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



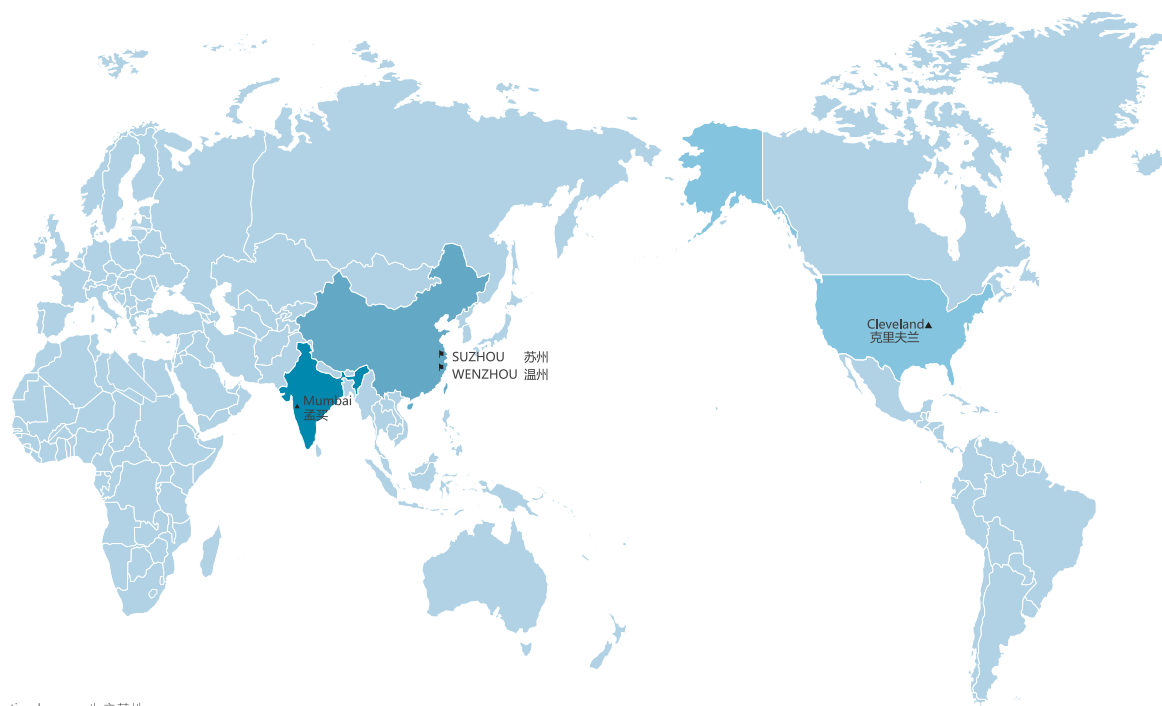
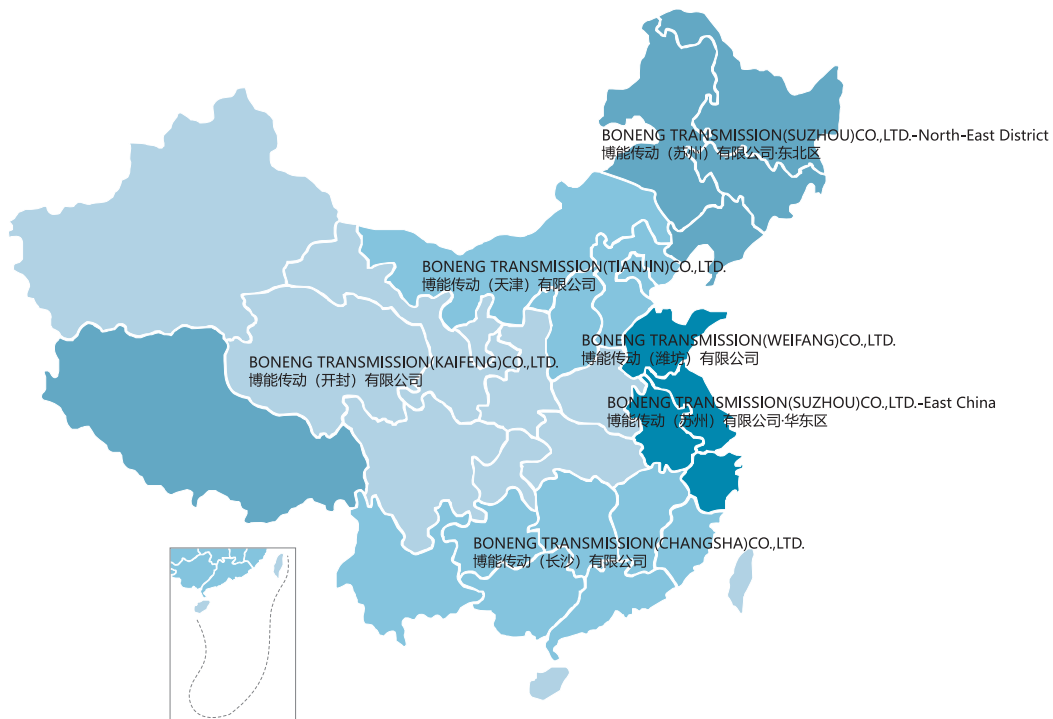
注:

1. 齿轮箱采用浸油润滑，产品系列P和K油路不通，用油封隔绝，需分别加油。
2. 上表中粘度牌号为40° C温度下的ISO—VG粘度。
3. 环境温度低于-10° C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。

Oil level ( L )						
Size	PK09	PK10	PK11	PK12	PK13	PK14
P	3	4	6	8	10	16
K	8.5	8.5	11.5	11.5	22	22



<b>BONENG TRANSMISSION(SUZHOUCO.,LTD.-North-East Territory</b> 博能传动(苏州)有限公司-东北区			KUNMING 昆明 650021	<b>BONENG TRANSMISSION(WEIFANGCO.,LTD.</b> 博能传动(潍坊)有限公司		
SHENGYANG 沈阳 110013	1423, Tang Xuan Center, 12-1 North Second East Road, Tiexi District 铁西区北二东路12-1号唐轩中心1423 TEL:024-31281850	Room 1611, Building 6, Phase 2, Luosiwan international Trade City Panlong District, Kunming City, 昆明市盘龙区螺蛳湾国际商贸城二期6栋1611室 TEL:0871-63627910	QINGDAO 青岛 266012	Room 5018, Yigao Digital Plaza, No. 157, Liaoning Road, Shibei District 市北区辽宁路157号颐高数码广场5018室 TEL:0532-55579476		
DALIAN 大连 116021	Room 1309, Block A, Zhongnan Building, No. 18 Zhonghua West Road, Ganjingzi District 甘井子区中华西路18号中南大厦A座1309室 TEL:0411-39728495	QUANZHOU 泉州 362000	Rm.1913, Quanzhou Puxi Wanda SOHO B, Baozhou Road, Fengze District, Quanzhou City, 丰泽区宝洲路泉州浦西万达广场SOHO B座1913室 TEL:0595-22518045	WEIFANG 潍坊 261000	Room 1911, Block F, Century Taihua, 360 Dongfeng East Street 潍坊市东风东街360世纪泰华F座1911室 TEL:0536-8235189	
CHANGCHUN 长春 130041	Room 2206, 22nd Floor, Jianshe Building, Guiyang Street, Changchun City 长春市贵阳街建设大厦22楼2206室 TEL:0431-88018012	NANCHANG 南昌 330003	Room 1321, Building 2, Ligaolanhu, 220 Lian'an Road, Xiaolan Economic and Technological Development Zone, Nanchang 南昌市小蓝经济技术开发区莲安路220号力高澜湖郡2栋1321室 TEL:0791-86662106	JINING 济宁 272000	1210, Wanli Fude Plaza, Yangqiao Triangle Greenland, High-tech Zone 高新区杨桥三角绿地万丽富德广场1210 TEL:0537-7972321	
HAERBIN 哈尔滨 150001	Room 1208, Building A, Zhonghao Wall Street, No. 209, Changjiang Road, Nangang District 南岗区长江路209号中浩华尔街A栋1208室 TEL:0451-53635817	<b>BONENG TRANSMISSION(SUZHOUCO.,LTD.-East China</b> 博能传动(苏州)有限公司-华东区		JINAN 济南 250031	Room 1607, Greenland City, 2477 Qizhou Road, Huaiyin District 槐荫区齐州路2477号绿地缤纷城1607室 TEL:0531-85899337	
<b>BONENG TRANSMISSION(TIANJINCO.,LTD.</b> 博能传动(天津)有限公司			SUZHOU 苏州 215131	<b>BONENG TRANSMISSION(KAIFENGCO.,LTD.</b> 博能传动(开封)有限公司		
BEIJING 北京 100176	1007, Building 10, Lippo Plaza, 8 Ronghua Middle Road, Daxing District, Beijing 北京市大兴区荣华中路8号力宝广场10号楼1007 TEL:010-82844108	SHANGHAI 上海 200060	100# Ruyuan Rd., Xiangcheng District, Suzhou, China 江苏省苏州市相城区如元路100号 TEL:0512-66189688	YANTAI 烟台 264000	Room 688, East Building, Baowei Building, No. 5 Wanshoushan Road, Development Zone, Yantai City 烟台市开发区万寿山路5号宝威大厦东楼688室 TEL:0535-6972372	
TIANJIN 天津 300021	No. 6 Shuanghai Road, Beichen District 北辰区双海道6号 TEL:022-27252801	NANJING 南京 210009	Room 1410, No. 2, Lane 789, Tianzhu Road, Jiading District 嘉定区天祝路789弄2号1410室 TEL:021-62463133	CHONGQING 重庆 400039	27-12, Building 1, No. 8, Xihuan Road, Jiangbei District 江北区西环路8号1幢27-12 TEL:023-68856736	
TANGSHAN 唐山 063000	16th Floor, Tangshan Technology Center, 1698 Weiguo Road, High-tech Development Zone 高新技术开发区卫国路1698号唐山科技中心16层 TEL:0315-3476336	WUXI 无锡 214007	Room 902, Tianheng Building, No. 58 Qinhuai Road, Moling Street, Jiangning District, Nanjing 南京市江宁区秣陵街道秦淮路58号天恒大厦902室 TEL:025-83476585	WUHAN 武汉 430077	No. 13-2304, Wanda Plaza, Jiyu Bridge, Heping Avenue, Wuchang District 武昌区和平大道积玉桥万达广场13-2304号 TEL:027-87253387	
SHIJIAZHUANG 石家庄 050011	Room 403, Block B, Zhong Yuan Business Building, 88 Huaian West Road, Xiaoxi District 桥西区槐安西路88号中苑商务大厦B座403室 TEL:0311-68120930	ZHANGJIAGANG 张家港 215600	Room B1121, Huafang International Building, No. 178 Chengbei Road 张家港市城北路178号华芳国际大厦B1121室 TEL:0512-58157114	CHENGDU 成都 610031	Room 3105, 31st Floor, Building 1, No. 666, Jinfu Road, Jinfu District 金府区金府路666号1栋31层3105室 TEL:028-87741100	
TAIYUAN 太原 030006	Wanbang International 2310, No. 7 Yingze Street, Yingze District 迎泽区迎泽大街7号万邦国际2310 TEL:0351-7425539	XUZHOU 徐州 221000	Room 1-916, Office Building, 7th Phase, Greenland Century, Hanjing Avenue, Yunlong District, Xuzhou City 云龙区汉景大道绿地世纪第七期办公楼1-916室 TEL:0516-83739651	XIAN 西安 710075	Room 2411, North Block C, Shangpin International, 88 Gaoxin Road, Yanta District 雁塔区高新路88号尚品国际C幢北2411室 TEL:029-87816677	
CHANGZHI 长治 046000	Room A04, Zhongchuang Society (Building Space), No. 188 Taihang North Road, High-tech Zone, Changzhi City 山西省长治市高新区太行北路188号众创社(积木空间)A04室 TEL:0355-6081808	CHANGZHOU 常州 213002	Room 808, Changfa Building, No. 5, Yanzheng Middle Road, Wujin District 常州市武进区延政中路5号常发大厦808室 TEL:0519-88168691	LUOYANG 洛阳 471003	1-2308, Chuangzhan International, Nanchang Road, West Area, Jianxi District 涧西区西区长南昌路创展国际1-2308 TEL:0379-64386861	
BAOTOU 包头 014010	Room 1713, Financial Fortune Building, Friendship Street and Fuqiang Road, Qingshan District, Baotou City 包头市青山区友谊大街与富强路交口金融财富大厦1713室 TEL:0472-5908677	TAIZHOU 泰州 225300	Room 1311, Building 10, Huarun International, 99 Gulou South Road, Hailing District 海陵区鼓楼南路99号华润国际10号楼1311室 TEL:0523-86839991	LANZHOU 兰州 471003	Room 1013, Building 1, Yangguang Yaju, Tianping Street, Tianshui South Road, Chengguan District 城关区天水南路天平街阳光雅居1号楼1013室 TEL:0931-4608517	
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International Department  
TEL: +86-512-66189922  
FAX: +86-512-66189627  
E-mail: info@boneng.com  
博能传动国际部

BonengTransmission(India)Pvt.Ltd  
402, 4th floor, 8, Deepshikha Building, Rajendra  
Place, New Delhi-110008  
Email: india@boneng.com  
Tel: +91-11-45076293  
博能传动(印度)有限公司

Mumbai Office  
No.603, Bhumiraj Costa Rica Commercial  
Building, Plot 1&2, Palm Beach Road, Sector 18,  
Sanpada, Navi Mumbai 400705 India  
Tel: +91-22-2781-3385  
FAX: +91-22-2781-3386  
孟买办事处

BonengTransmission(USA)LLC.  
1670 ENTERPRISE PARKWAY,  
TWINSBURG, OH 44087  
E-mail: america@boneng.com  
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