



**ZA, ZAK, ZAG Series Petrochemical Process Pumps**  
Executing standards of product: API610 (Ed.10)





## Product Description

### Product Introduction

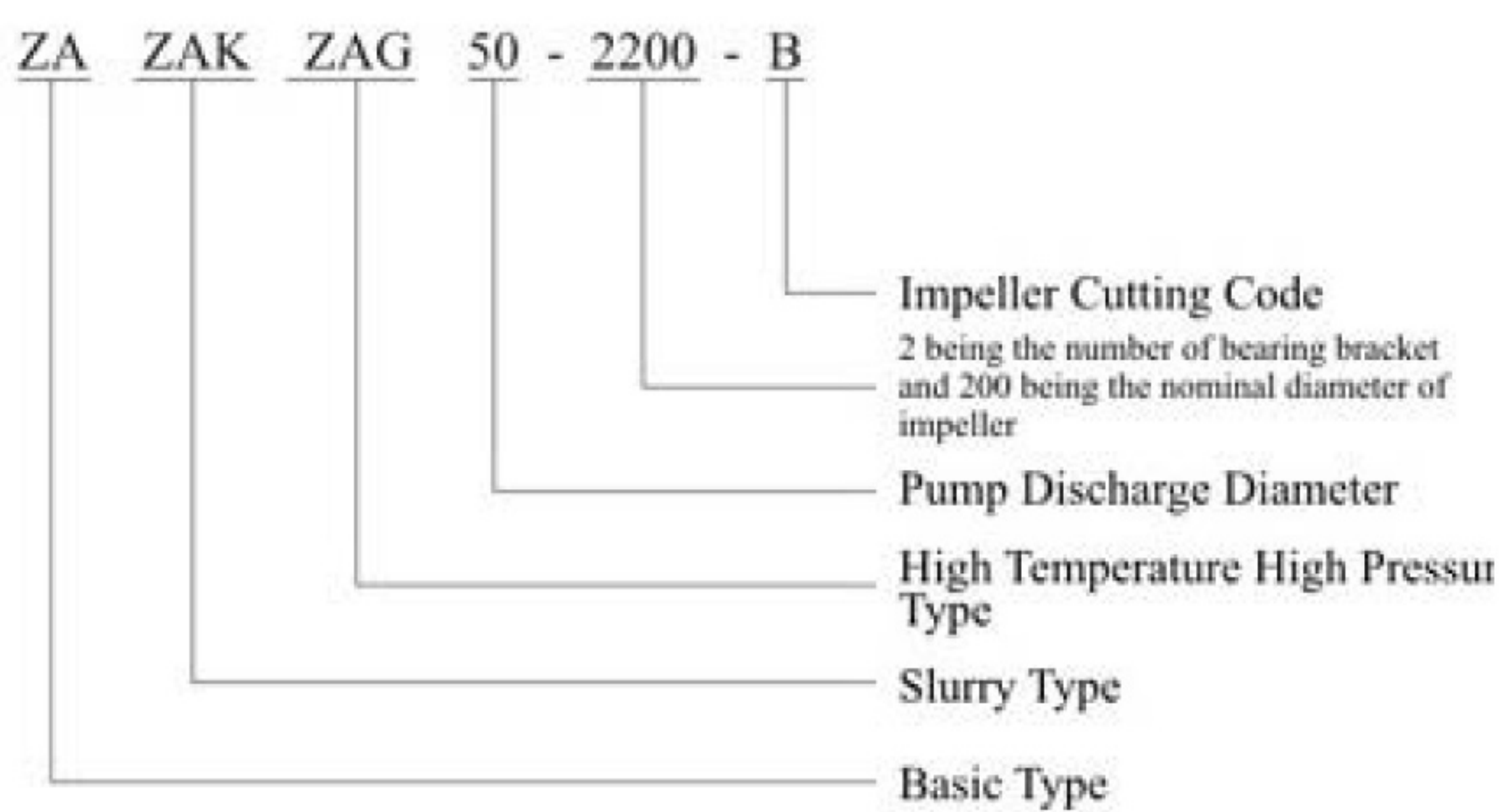
Standard of products: API610 (the 10<sup>th</sup> Edition) and VDMA24297 (Medium/Heavy Type) Standard.

ZA, ZAK and ZAG series petrochemical process pumps are horizontal, single-stage single-entry cantilevered centrifugal pumps to DIN24256, ISO2858 and GB5662-85 standards.

Mainly used in refineries, petrochemical, cryogenic engineering, coal mining, chemical fiber, ordinary industrial processes, power plants, large and medium-sized heating and air-conditioning equipment, environmental protection equipment, maritime industries and desalting plants etc.

Used to handle various types of liquid, clean or containing a few particles, low or high temperature, neutral or corrosive.

### Type Designation



### Structural Features

ZA basic type: foot supported, closed impeller and designed pressure at 2.5MPa, suitable for ordinary industrial processes.

ZAK slurry type: foot supported, open or semi-open impeller, designed pressure at 2.5MPa, used to handle various slurry and media containing particles.

ZAG high temperature high pressure type: center supported, closed impeller and designed pressure at 5.0MPa, suitable for the important high temperature high pressure industrial processes.

This series of pumps are blended with meticulous considerations on hydraulics, the connecting type of pump casing and bearing bracket, mechanical seal components, type of cooling and auxiliary pipeline, which have solved the operation and installation defects existing in the process pumps and oil pumps designed on the basis of API610 (the 7th edition).

The hydraulics of this series of pumps are screened and upgraded from the excellent hydraulic models home and abroad. It has increased the suction diameter of pump casing and impeller to keep relatively low-speed suction flow to enhance the anti-cavitation performance and the efficiency of pumps. In addition, it has increased the corrosion allowance of pump casing and impeller to lengthen the whole lifetime of pumps.

Worn parts include the small pieces like rings, shaft sleeves and mechanical seal etc. After they have been replaced, the main components, like casing and shaft etc. can be used continually, which has greatly lowered the maintenance expenses of pumps.

According to actual working conditions, this series of pumps may be fitted with different seals. Bearing bracket can be designed to carry air-cooled radiating fin or to water-cooled type to adapt to different temperatures. Therefore, this series of pumps have a wide range of application.

Viewed from the end of drive, this series of pumps make clockwise rotation.



## Product Description

### Structure diagram

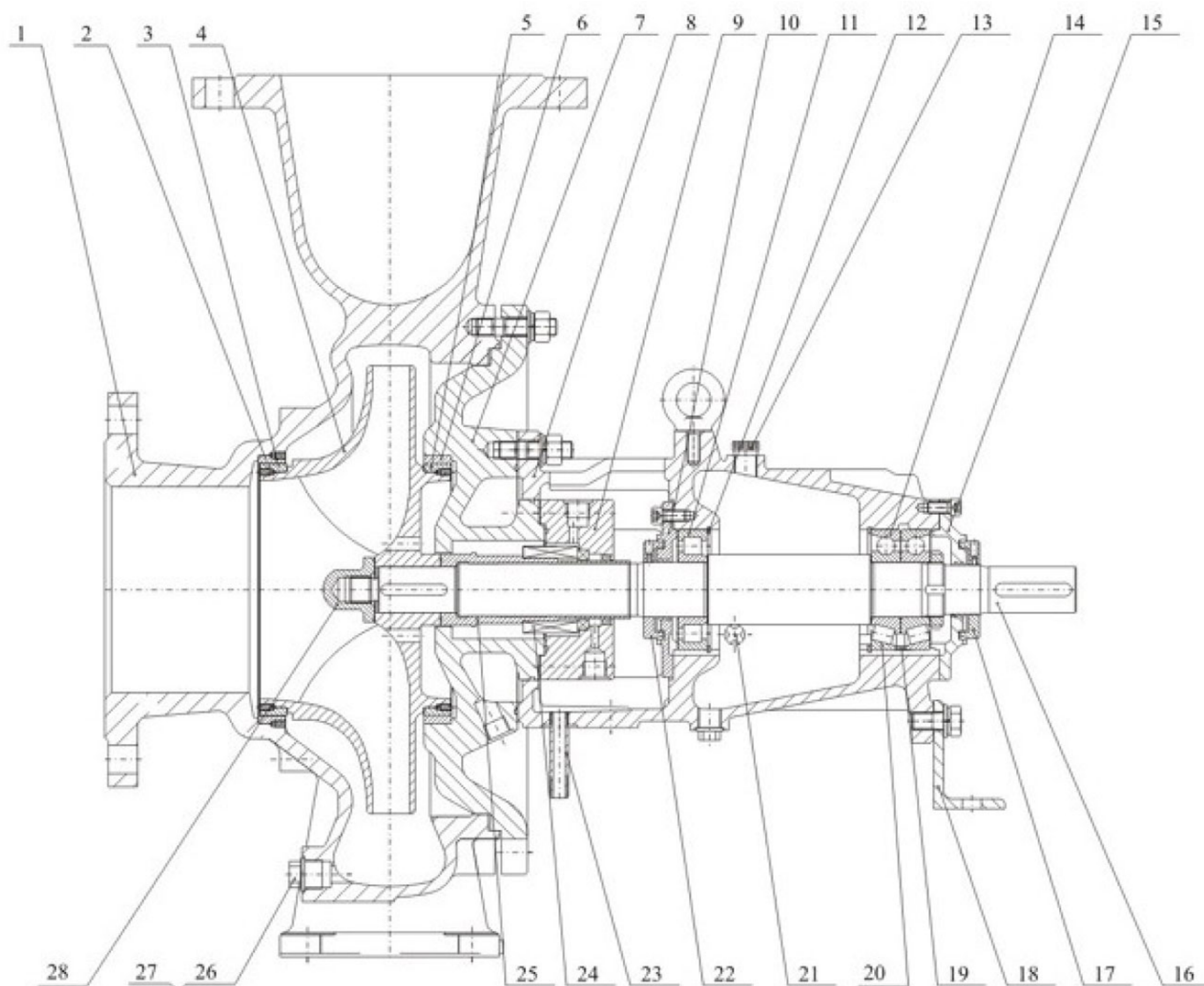


Table of main parts

No.	Name	Material	No.	Name	Material
1	Casing	SUS304	15	Rear bearing gland	FC200
2	Casing ring	SUS304	16	Shaft	ANSI420
3	Front impeller ring	SUS304	17	Rear dust pan	FC200
4	Impeller	SUS304	18	Supporting foot	FC200
5	Rear impeller ring	SUS304	19	Bearing spacer ring	FC200
6	Bonnet ring	SUS304	20	Tapered roller bearing	Standar
7	Pump bonnet	SUS304	21	Oil level window	PTFE
8	Bearing house	FC200	22	Front dust pan	FC200
9	Seal gland	SUS304	23	Discharge tube	SUS304
10	Front bearing gland	FC200	24	Shaft seal	M.S,G/P
11	Cylindrical roller bearing	Standar	25	Shaft sleeve	SUS304
12	Retainer ring	SUS304	26	Screw plug	SUS304
13	Air relief cock	FC200	27	Sealing gasket	PTFE
14	Angular ball bearing	Standar	28	Impeller nut	SUS304



### ZAP Series Petrochemical Process Pumps



Capacity: 2~2600m<sup>3</sup>/h

Head: ~240m

Pressure: ~5.0MPa

Temperature: -80~450℃

Application: To deliver various clean or particle-contained inflammable, explosive and strong corrosive media, mainly in the areas of oil refineries, petrochemical, power plants, ordinary industrial processes, marine industries, etc.

### CZ Series Standard Chemical Pumps



Capacity: 2~2000m<sup>3</sup>/h

Head: ~160m

Pressure: ~2.5MPa

Temperature: -40~+260℃

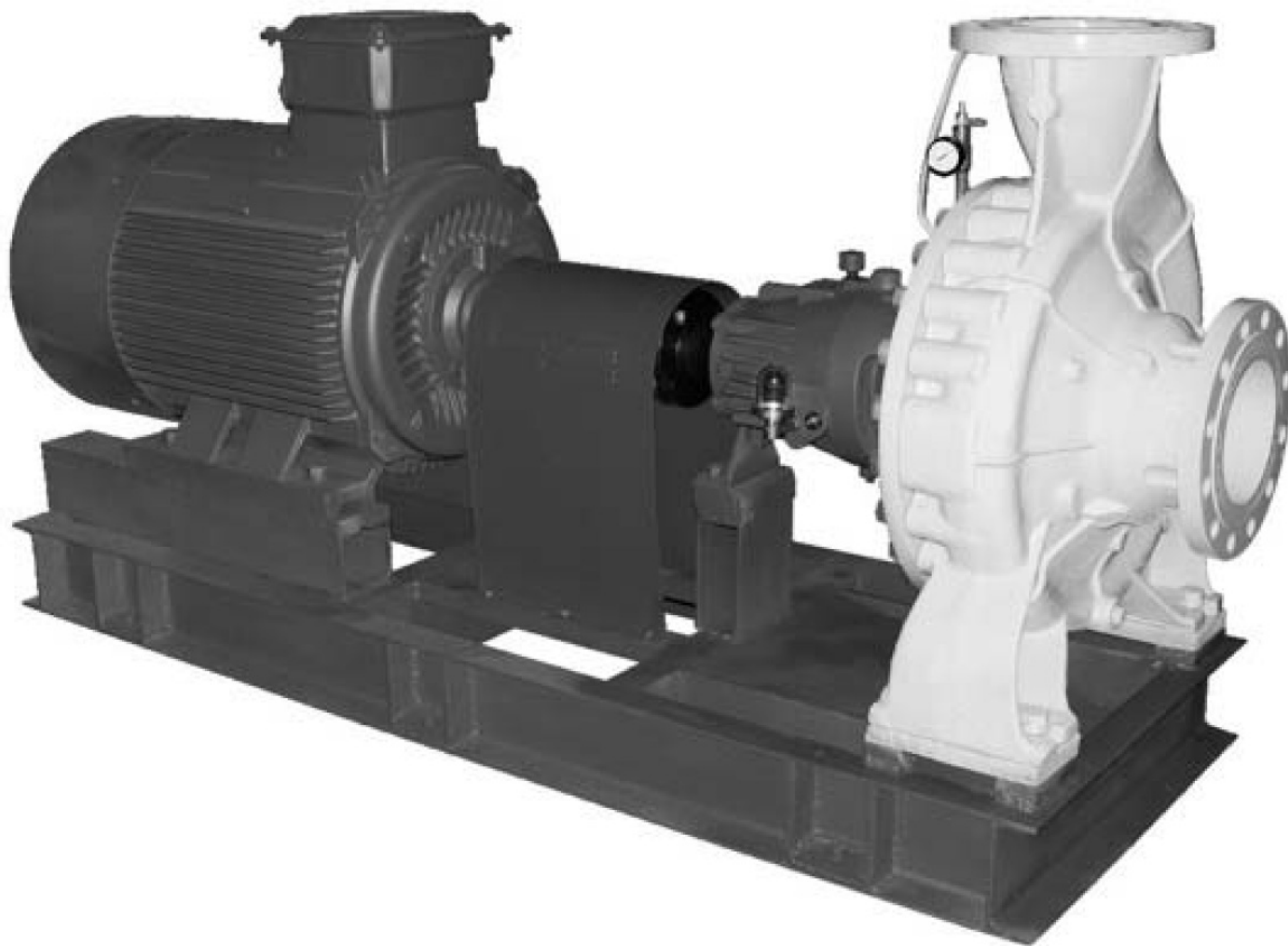
Application: To deliver various low or high temperature, neutral or corrosive, clean or solid particle contained, toxic, inflammable and explosive media in the areas of chemical, petrochemical, steel works, power plants, papermaking, paper pulp, medicines, foodstuff, sugar refining, etc.



### Product Introduction

ZA、ZAK、ZAG Series Petrochemical Process Pumps

Designed to API610 standard



Capacity: 2~2600m<sup>3</sup>/h

Head: ~250m

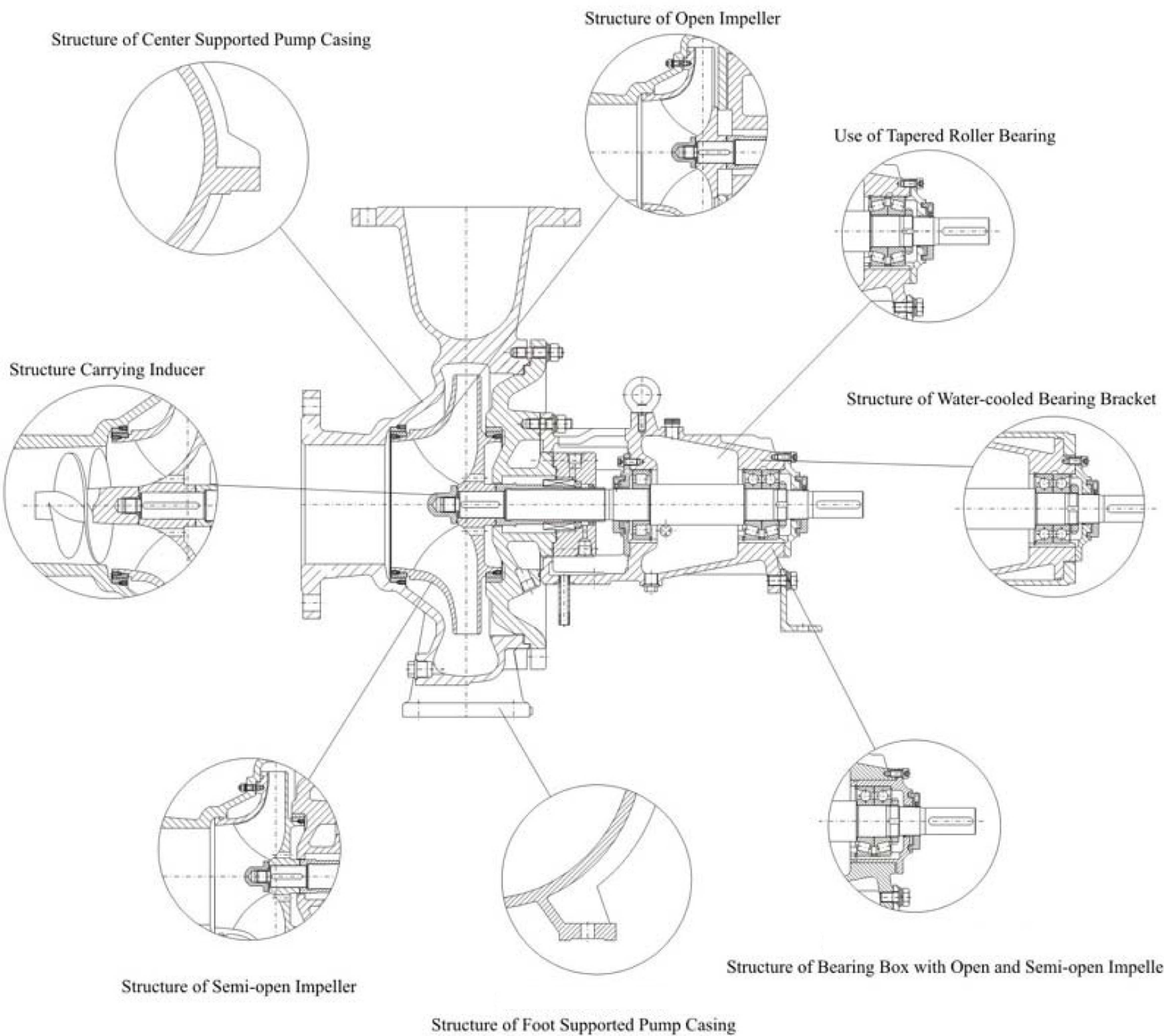
Temperature: -80~350℃

Application: to deliver various clean or particle-contained inflammable, explosive and strong corrosive media, mainly in the areas of oil refineries, petrochemical, power plants, ordinary industrial processes, marine industries, etc.

ZA, ZAK and ZAG series pumps are designed to the standard of API (the 10<sup>th</sup> edition). The closed and semi-open impellers under this series adopt the balanced axial force with balance hole plus wearing ring, while open impellers adopt the balanced axial force with back vane. The pump casings of discharge diameter above 80mm are designed into double volute balanced radial force to guarantee the service life of bearing and deflection at shaft seal. According to different working conditions, bearings may be cylindrical roller and angular contact ball bearings or cylindrical roller and tapered roller bearings to greatly improve the service life of bearings.



### Structural Deformation Diagram





## Product Description

### Pump Spectrum

