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# YZA YZE YZAO型石油化工流程泵

YZA YZE YZAO Seires Petrochemical Process Pump



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使用该产品前，请仔细阅读说明书！

Please read the instructions carefully before using this product!

# 目录CONTENTS

|                                                             |         |
|-------------------------------------------------------------|---------|
| ■ 概述、用途、使用参数<br>Summary,Application,Operating data          | 1       |
| ■ 设计特点，优点<br>Design Features,Advantages                     | 2       |
| ■ 性能曲线<br>Performance Curve                                 | 3 - 5   |
| ■ 性能参数表<br>Performance table                                | 6 - 12  |
| ■ 外形尺寸图<br>Overall size drawing                             | 13      |
| ■ 泵进出口法兰尺寸<br>Size of pump inlet and outlet flanges         | 14      |
| ■ 泵外型、安装尺寸<br>Pump appearance and installation size         | 15 - 23 |
| ■ 剖面图<br>Sectional Drawing                                  | 24      |
| ■ 密封介绍<br>Seal introduced                                   | 25      |
| ■ 轴封、轴封零件单、叶轮<br>Shaft seals,Shaftseals part list,Impellers | 26      |



## YZA YZE YZAO型石油化工流程泵 YZA YZE YZAO Seires Petrochemical Process Pump

### ■ 概述

YZA、YZE、YZAO石油化工流程泵，是根据API610(第八版)和VDMA24297(轻/中型)规范设计的。适合输送清洁或含有颗粒的液体，低温或高温的液体，中性或有腐蚀性的液体。各种温度和浓度的硫酸、硝酸、盐酸和磷酸等无机酸和有机酸，各种盐溶液。

该泵为单级、卧式径向剖分蜗壳泵，泵体为脚支撑。单吸 径向叶轮。轴向吸入，径向排出。

根据使用条件，采用前、后磨损环及平衡孔进行水力平衡。填料箱具有冷却或加热管接头。轴封采用填料密封，也可以采用单端面或双端面机械密封。并配有冷却，冲洗或密封系统。

标准管路按API规范设计。吸入及排出管法兰的额定压力等级相同。从电机端看，泵为顺时针转动。

### ■ 主要用途

- 1、炼油厂、石油化学工业、煤加工工业和低温工程。
- 2、化学工业、造纸、纸浆业、制糖业和普通流程工业。
- 3、供水厂、海水淡化厂
- 4、供暖和空气调节系统
- 5、发电厂
- 6、环境保护工程 船舶及海上工业等。

### ■ 使用参数

口径：25-400mm

流量Q：可达2600m<sup>3</sup>/h

扬程H：可达250m

工作压力P：可达2.5MPa

工作温度T：-20℃~+180℃

中心支撑：-2℃~+450℃

### ■ Summary

Model- YZAYZE YZAO series petrochemical process pumps is designed according to API610(8th edition)and VDMA24297 (light/mediumduty).For pumping clean or slightly polluted, cold or hot, chemically neutral or aggressive liquids.

Single - stage, horizontal, radially split volute casing pumps with feet below and single - entry radial impeller, and suction branch, radially upwards discharge branch.

Depending on operating conditions hydraulic balance is provided by front or rear wear rings and balance holes. Casing cover with cooling or heating connections, shaft sealing by packings or mechanical seals of any design (single or double working), connections for cooling, flushing or sealing liquid.

Standardized pipework is designed according to API plans. Cooling of baseplate pedestal possible. Flanges possible according to DIN or ANSI. Same nominal pressure for suction and discharge flanges. Direction of rotation clockwise seen from drive end.

### ■ Mainly usage

1. In refineries, petrochemical industry, coal processing and low temperature engineering.
2. In chemical industry, fibre and general processing industries, particularly in paper and pulp industries, sugar industry.
3. In water industry, particularly seawater desalination plants. In heating and air-condition ing.
4. In fossile and nuclear power- stations.
5. Condition protective project.
6. In ship and offshore industries.

### ■ Operating data

Size: 25-400mm

Capacities (Q): up to 2600m<sup>3</sup>/h

Heads (H) up to 250m

Operating Pressures (P) up to 2.5Mpa

Operating Temperature (T)-20 up to +180℃;

Centerline support:-20℃~+450℃

## ■ 设计特点

- 1、按照API610(第八版) 标准设计 采用组件装配，联轴器带有加长段。
- 2、不同规格泵的基本部件可以互换。
- 3、双蜗壳泵体（口径80mm 以上）管径大，腐蚀余量大。
- 4、叶轮结构闭式叶轮(标准件)开式叶轮型叶轮用钢丝螺套自锁。
- 5、磨损件可以更换 叶轮和泵体磨损环（角结构也可），轴封处轴套，泵体磨损环可以冲洗。
- 6、整体重型轴承支架 油润滑球轴承，自动润 滑而且自动控 制油位当温度 $T \leq 250^{\circ}\text{C}$ 时，无 须冷却 当温度 $T > 250^{\circ}\text{C}$ 时，用 风冷或水冷 却 迷宫环密封（标准件），也可以用径向密封环。

## ■ 产品优点

- 1、保证执行流程工业的结构和 维修标 拆装泵时无须拆下管道和电机，易于装，便于维修。
- 2、46种规格泵 只需8种 规格 的 轴 承 部 件，对于重工位的泵具有相同的水力部件（叶轮）和轴承部件。
- 3、径向力小，轴挠度小，轴封处挠度小于0.05mm管内流速小，振动小，噪音 低。泵体 带有自动排气装置。管 道结构简单，承载力 好。泵体无 须支架，不会断裂，寿命长。
- 4、闭式叶轮， 对工况适应性强， 效率高，汽蚀余量低开式叶轮，适于输送汽液两 相流和含 固体颗粒浓度大（达10%）的液体汽蚀量极低，要求装置汽蚀余量小，轴 不与输送介质接触。
- 5、当泵体、叶轮上的磨损环和轴套磨损后，更换之，泵体、叶轮和轴仍可以继续使用。
- 6、轴承支架同轴度好，稳定性 高，刚性 好，挠度小。nk>nop零件少 轴承拆检次数少 不增加轴承温度。
- 7、填料密封和各种结构的机械密封可互换。

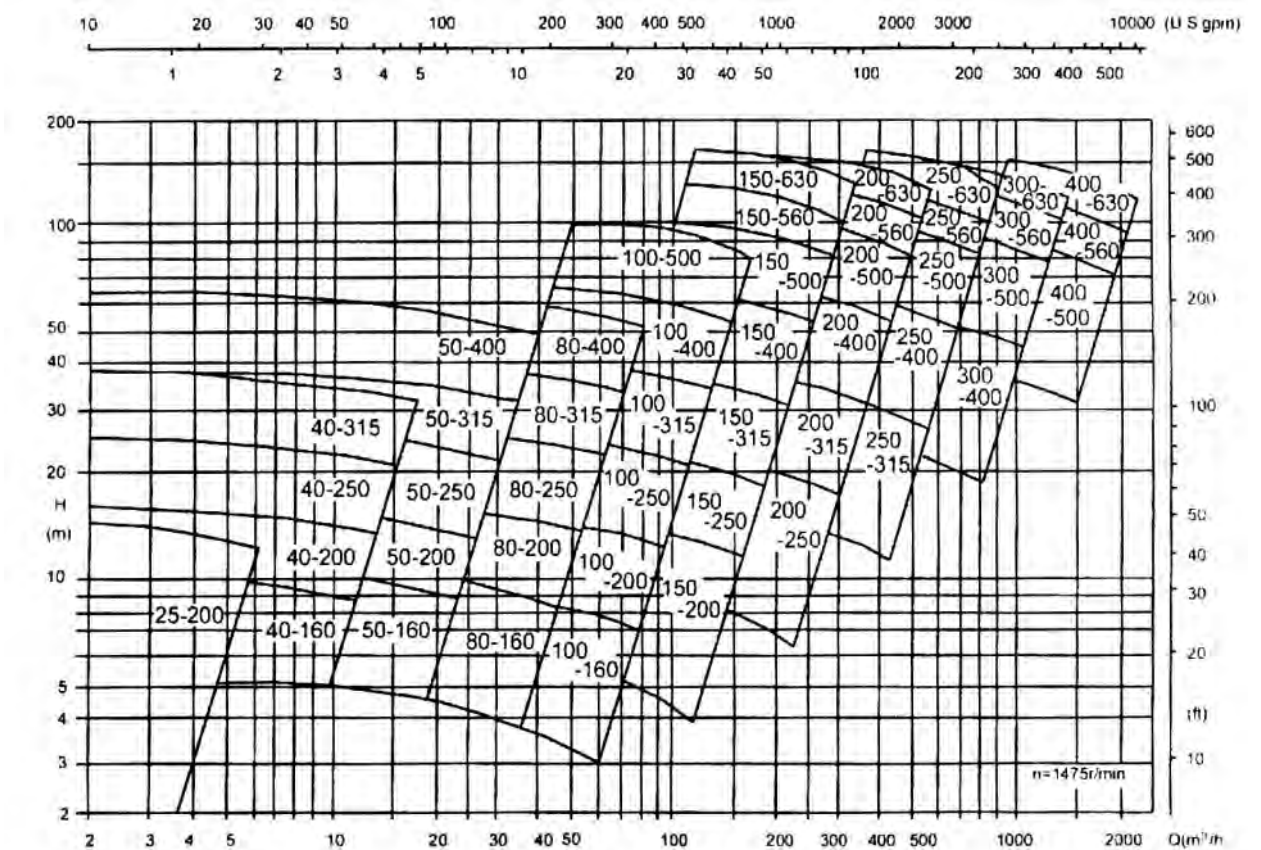
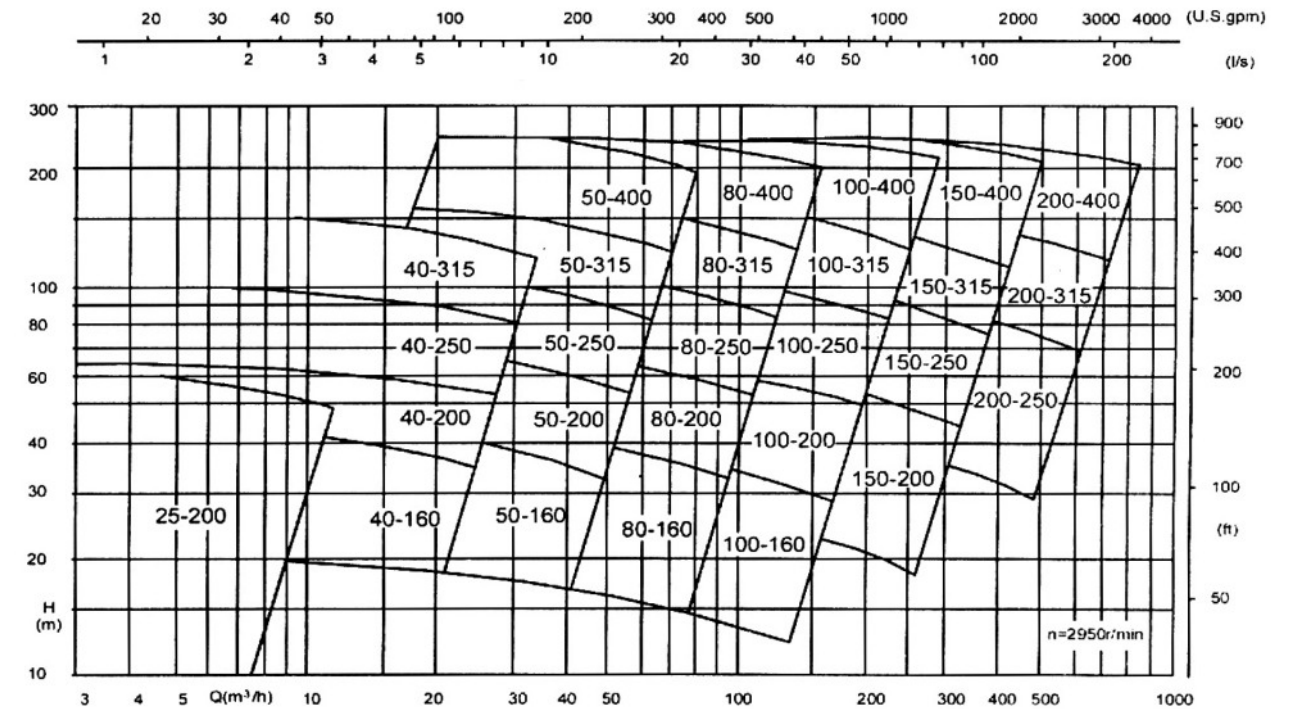
## ■ Design Features

1. according to API610(eighth edition) standard design using component assembly, coupling with extended Paragraph.
2. the basic components of different specifications of the pump can be exchanged.
3. double volute pump body (diameter 80mm or more) large diameter, large corrosion allowance.
4. impeller structure closed impeller (standard parts) open impeller impeller with steel thread sleeve self-locking.
5. wear parts can be replaced impeller and pump body wear ring (angle structure can also be), shaft seal shaft Set, pump body wear ring can be washed.
6. the overall heavy bearing bracket oil lubrication ball bearing, automatic lubrication and automatic control of oil level When the temperature  $T \leq 250^{\circ}\text{C}$ , no cooling is required. When the temperature  $T > 250^{\circ}\text{C}$ , use air cooling or Water-cooled labyrinth seals (standard) or radial seal rings can be used.

## ■ Advantages

1. to ensure the implementation of the process industry structure and maintenance standard disassembly pump without removing the pipeline and electricity The machine is easy to install and easy to maintain.
2. 46 specifications of the pump only need 8 kinds of specifications of the bearing parts, for the heavy position of the pump has Identical hydraulic components (impeller) and bearing components.
3. Small radial force, small shaft deflection, small flow rate in the tube with a shaft seal deflection less than 0.05mm, Low vibration and low noise. Pump body with automatic exhaust device. the structure of that pipeline is simple, and the bear Good load. Pump body without bracket, will not break, long life.
4. closed impeller, strong adaptability to working conditions, high efficiency, low NPSH open impeller, Suitable for conveying vapor-liquid two-phase flow and liquid cavitation with large concentration of solid particles (up to 10%) The amount is extremely low, and the device is required to have a small NPSH, and the shaft is not in contact with the conveying medium.
5. When the wear ring and shaft sleeve on the pump body and impeller are worn, replace them. The shaft can still be used.
6. Bearing bracket has good coaxiality, high stability, good rigidity and small deflection. nk>nop part Less bearing disassembly and inspection times do not increase bearing temperature.
7. packing seals and mechanical seals of various structures can be interchangeable. labyrinth seals (standard) or radial seal rings can be used.

## ■ 性能曲线 Performance Curve







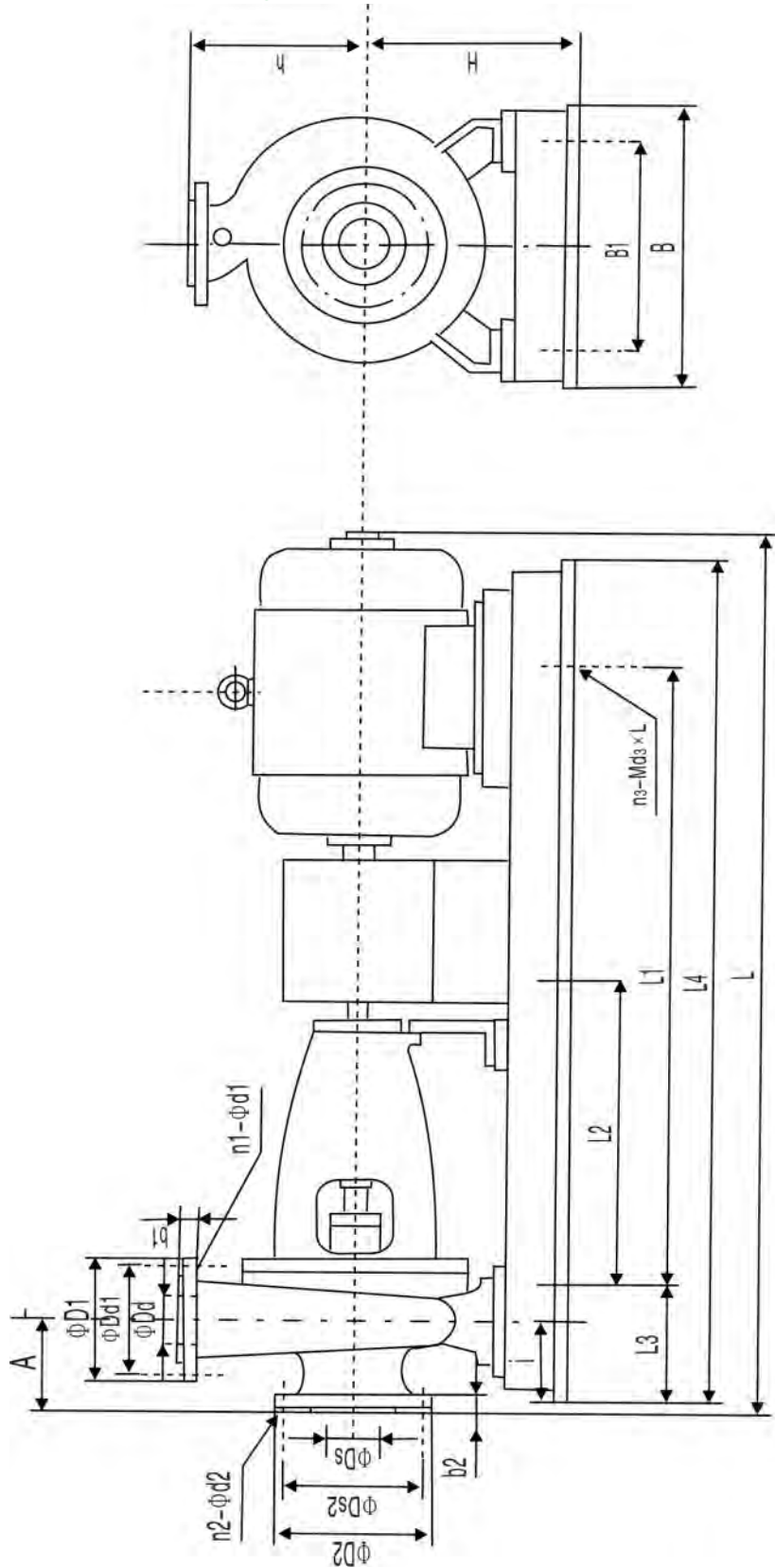




■ 性能参数表Performance table

| 型号<br>Model | 叶<br>轮<br>型<br>式 | 泵额定转速n=1450r/min Speed |         |         |           |                   |               |          |          |          |          |          |
|-------------|------------------|------------------------|---------|---------|-----------|-------------------|---------------|----------|----------|----------|----------|----------|
|             |                  | 流量<br>m³/h             | 扬程<br>m | 效率<br>% | 轴承架<br>LK | 汽蚀余量<br>NPSH<br>m | 比重y=1.00      |          | 比重y=1.35 |          | 比重y=1.84 |          |
|             |                  |                        |         |         |           |                   | 电机功率及型号 Motor |          |          |          |          |          |
|             |                  |                        |         |         |           |                   | KW            |          | KW       |          | KW       |          |
| 250-500     | A                | 800                    | 82      | 83      | 5         | 5                 |               |          |          |          |          |          |
|             | B                | 770                    | 76      |         |           |                   |               |          |          |          |          |          |
|             | C                | 700                    | 58      |         |           |                   | 160           | Y315M2-4 |          |          |          |          |
|             | D                | 630                    | 42      |         |           |                   | 110           | Y315S-4  | 160      | Y315M2-4 |          |          |
| 250-560     | A                | 860                    | 106     | 82      | 5         | 4.2               |               |          |          |          |          |          |
|             | B                | 830                    | 98      |         |           |                   |               |          |          |          |          |          |
|             | C                | 760                    | 78      |         |           |                   |               |          |          |          |          |          |
|             | D                | 665                    | 57      |         |           |                   | 160           | Y315M2-4 |          |          |          |          |
| 250-630     | A                | 855                    | 128     | 80.5    | 6         | 4.2               |               |          |          |          |          |          |
|             | B                | 816                    | 119     |         |           |                   |               |          |          |          |          |          |
|             | C                | 720                    | 96      |         |           |                   |               |          |          |          |          |          |
|             | D                | 625                    | 71      |         |           |                   |               |          |          |          |          |          |
| 300-400     | A                | 1050                   | 48      | 87      | 4         | 5.8               |               |          |          |          |          |          |
|             | B                | 1010                   | 45      |         |           |                   | 160           | Y315M2-4 |          |          |          |          |
|             | C                | 900                    | 34      |         |           |                   | 132           | Y315M1-4 | 160      | Y315M2-4 | 160      | Y315M2-4 |
|             | D                | 780                    | 26      |         |           |                   | 90            | Y280M-4  | 132      | Y315M1-4 |          |          |
| 300-500     | A                | 1240                   | 78      | 88      | 5         | 4.8               |               |          |          |          |          |          |
|             | B                | 1170                   | 75      |         |           |                   |               |          |          |          |          |          |
|             | C                | 1015                   | 57      |         |           |                   |               |          |          |          |          |          |
|             | D                | 870                    | 42      |         |           |                   | 160           | Y315M2-4 |          |          |          |          |
| 300-560     | A                | 1340                   | 104     | 87      | 6         | 5.2               |               |          |          |          |          |          |
|             | B                | 1280                   | 97      |         |           |                   |               |          |          |          |          |          |
|             | C                | 1140                   | 77      |         |           |                   |               |          |          |          |          |          |
|             | D                | 950                    | 56      |         |           |                   |               |          |          |          |          |          |
| 300-630     | A                | 1450                   | 132     | 85      | 6         | 5.5               |               |          |          |          |          |          |
|             | B                | 1375                   | 125     |         |           |                   |               |          |          |          |          |          |
|             | C                | 1170                   | 100     |         |           |                   |               |          |          |          |          |          |
|             | D                | 950                    | 75      |         |           |                   |               |          |          |          |          |          |
| 400-500     | A                | 1870                   | 74      | 88      | 6         | 6.3               |               |          |          |          |          |          |
|             | B                | 1800                   | 70      |         |           |                   |               |          |          |          |          |          |
|             | C                | 1520                   | 52      |         |           |                   |               |          |          |          |          |          |
|             | D                | 1300                   | 38      |         |           |                   |               |          |          |          |          |          |
| 400-560     | A                | 2040                   | 98      | 86      | 6         | 7.5               |               |          |          |          |          |          |
|             | B                | 1950                   | 91      |         |           |                   |               |          |          |          |          |          |
|             | C                | 1760                   | 74      |         |           |                   |               |          |          |          |          |          |
|             | D                | 1500                   | 54      |         |           |                   |               |          |          |          |          |          |
| 400-630     | A                | 2390                   | 125     | 88      | 7         | 8.3               |               |          |          |          |          |          |
|             | B                | 2280                   | 117     |         |           |                   |               |          |          |          |          |          |
|             | C                | 1960                   | 95      |         |           |                   |               |          |          |          |          |          |
|             | D                | 1610                   | 70      |         |           |                   |               |          |          |          |          |          |

■ 外形尺寸图 Overall size drawing











■ 泵外型、安装尺寸 Pump appearance and installation size

| 型号<br>Model  | 电机型号<br>Model of motor | 轴承架号<br>Number of support stand of bearing | A   | I    | L1         | L2   | L3   | L4   | L    | B1  | B   | h         | h1        | H         | n3-Md3×L  | 重量<br>weight<br>kg |
|--------------|------------------------|--------------------------------------------|-----|------|------------|------|------|------|------|-----|-----|-----------|-----------|-----------|-----------|--------------------|
| 200-250      | Y280S-2/75             | 3                                          | 235 | 125  | 1400       | 700  | 300  | 2000 | 2110 | 670 | 720 | 390       | 390       | 530       | 6-M16x220 | 1092               |
|              | Y280M-2/90             |                                            |     |      |            |      |      |      | 2160 |     |     |           |           |           |           | 1092               |
|              | Y315S-2/110            |                                            |     |      | 1600       | 800  | 320  | 2240 | 2310 | 730 | 780 | 570       | 6-M20x400 | 1484      |           |                    |
|              | Y315M1-2/132           |                                            |     |      |            |      |      |      | 2360 |     |     |           |           | 1484      |           |                    |
|              | Y315M2-2/160           |                                            |     |      |            |      |      |      | 2360 |     |     |           |           | 1484      |           |                    |
| 200-315      | Y180M-4/18.5           | 3                                          | 245 | 125  | 1060       | 530  | 270  | 1600 | 1790 | 610 | 660 | 420       | 315       | 530       | 6-M16x220 | 563                |
|              | Y180L-4/22             |                                            |     |      |            |      |      |      | 1830 |     |     |           |           |           |           | 563                |
|              | Y200L-4/30             |                                            |     |      | 1200       | 700  | 300  | 1800 | 1895 | 670 | 720 | 852       |           |           |           |                    |
|              | Y225S-4/37             |                                            |     |      |            |      |      |      | 1940 |     |     |           | 761       |           |           |                    |
|              | Y225M-4/45             |                                            |     |      | 1965       | 761  |      |      |      |     |     |           |           |           |           |                    |
|              | Y250M-4/55             |                                            |     |      | 2050       | 852  |      |      |      |     |     |           |           |           |           |                    |
|              | Y280S-4/75             |                                            |     |      | 1400       | 600  | 2000 | 2120 | 1098 |     |     |           |           |           |           |                    |
|              | 200-400                |                                            |     |      | Y225M-4/45 | 3    | 260  | 125  | 1200 | 600 | 300 | 1800      | 1980      | 670       | 720       | 470                |
| Y250M-4/55   |                        | 2065                                       | 914 |      |            |      |      |      |      |     |     |           |           |           |           |                    |
| Y280S-4/75   |                        | 1400                                       | 700 | 2000 | 2135       |      |      |      | 730  | 780 | 570 | 6-M20x400 | 1160      |           |           |                    |
| Y280M-4/90   |                        |                                            |     |      | 2185       |      |      |      |      |     |     |           | 1160      |           |           |                    |
| Y315S-4/110  |                        | 1600                                       | 800 | 320  | 2240       |      |      |      | 2335 | 730 | 780 | 570       | 6-M20x400 | 1552      |           |                    |
| Y315M1-4/132 |                        |                                            |     |      |            |      |      |      | 2385 |     |     |           |           | 1552      |           |                    |
| Y315M-4/160  |                        |                                            |     |      |            |      |      |      | 2385 |     |     |           |           | 1552      |           |                    |
| 200-500      |                        | Y280S-4/75                                 | 4   | 265  | 155        |      |      |      | 1400 | 700 | 300 | 2000      | 2190      | 670       | 720       | 540                |
|              | Y280M-4/90             | 2240                                       |     |      |            | 1299 |      |      |      |     |     |           |           |           |           |                    |
|              | Y315S-4/110            | 1600                                       |     |      |            | 800  | 320  | 2240 | 2390 | 730 | 780 | 640       | 6-M20x400 | 1694      |           |                    |
|              | Y315M1-4/132           |                                            |     |      |            |      |      |      | 2440 |     |     |           |           | 1694      |           |                    |
|              | Y315M2-4/160           |                                            |     |      |            |      |      |      | 2440 |     |     |           |           | 1694      |           |                    |
| 200-560      | Y315S-4/110            | 5                                          | 270 | 155  | 1600       | 800  | 320  | 2240 | 2550 | 730 | 780 | 570       | 570       | 640       | 6-M20x400 | 1855               |
|              | Y315M1-4/132           |                                            |     |      |            |      |      |      | 2600 |     |     |           |           |           |           | 1855               |
|              | Y315M2-4/160           |                                            |     |      |            |      |      |      | 2600 |     |     |           |           |           |           | 1855               |
| 200-630      |                        | 5                                          | 280 | 155  |            |      |      |      |      |     |     |           |           |           |           |                    |
| 250-315      | Y200L-4/30             | 3                                          | 255 | 125  | 1200       | 600  | 300  | 1800 | 1905 | 670 | 720 | 470       | 360       | 530       | 6-M16x220 | 729                |
|              | Y225S-4/37             |                                            |     |      |            |      |      |      | 1950 |     |     |           |           |           |           | 825                |
|              | Y225M-4/45             |                                            |     |      |            |      |      |      | 1975 |     |     |           |           |           |           | 825                |
|              | Y250M-4/55             |                                            |     |      | 1400       | 700  | 2000 | 2060 | 730  | 780 | 570 | 570       | 640       | 6-M20x400 | 916       |                    |
|              | Y280S-4/75             |                                            |     |      |            |      |      | 2130 |      |     |     |           |           |           | 1162      |                    |
|              | Y280M-4/90             |                                            |     |      |            |      |      | 2180 |      |     |     |           |           |           | 1162      |                    |
|              | Y315S-4/110            |                                            |     |      |            |      |      | 2330 |      |     |     |           |           |           | 1474      |                    |
| 250-400      | Y250M-4/55             | 4                                          | 280 | 155  | 1400       | 700  | 300  | 2000 | 2135 | 670 | 720 | 520       | 360       | 530       | 6-M16x220 | 1043               |
|              | Y280S-4/75             |                                            |     |      |            |      |      |      | 2205 |     |     |           |           |           |           | 1283               |
|              | Y280M-4/90             |                                            |     |      |            |      |      |      | 2255 |     |     |           |           |           |           | 1283               |
|              | Y315S-4/110            |                                            |     |      | 1600       | 800  | 320  | 2240 | 2405 | 730 | 780 | 570       | 6-M20x400 | 1283      |           |                    |
|              | Y315M1-4/132           |                                            |     |      |            |      |      |      | 2455 |     |     |           |           | 1675      |           |                    |
|              | Y315M2-4/160           |                                            |     |      |            |      |      |      | 2455 |     |     |           |           | 1675      |           |                    |
| 250-500      | Y315S-4/110            | 5                                          | 300 | 155  | 1600       | 800  | 320  | 2240 | 2580 | 730 | 780 | 610       | 640       | 6-M20x400 | 1846      |                    |
|              | Y315M1-4/132           |                                            |     |      |            |      |      |      | 2630 |     |     |           |           |           | 1846      |                    |
|              | Y315L1-4/160           |                                            |     |      |            |      |      |      | 2630 |     |     |           |           |           | 1846      |                    |

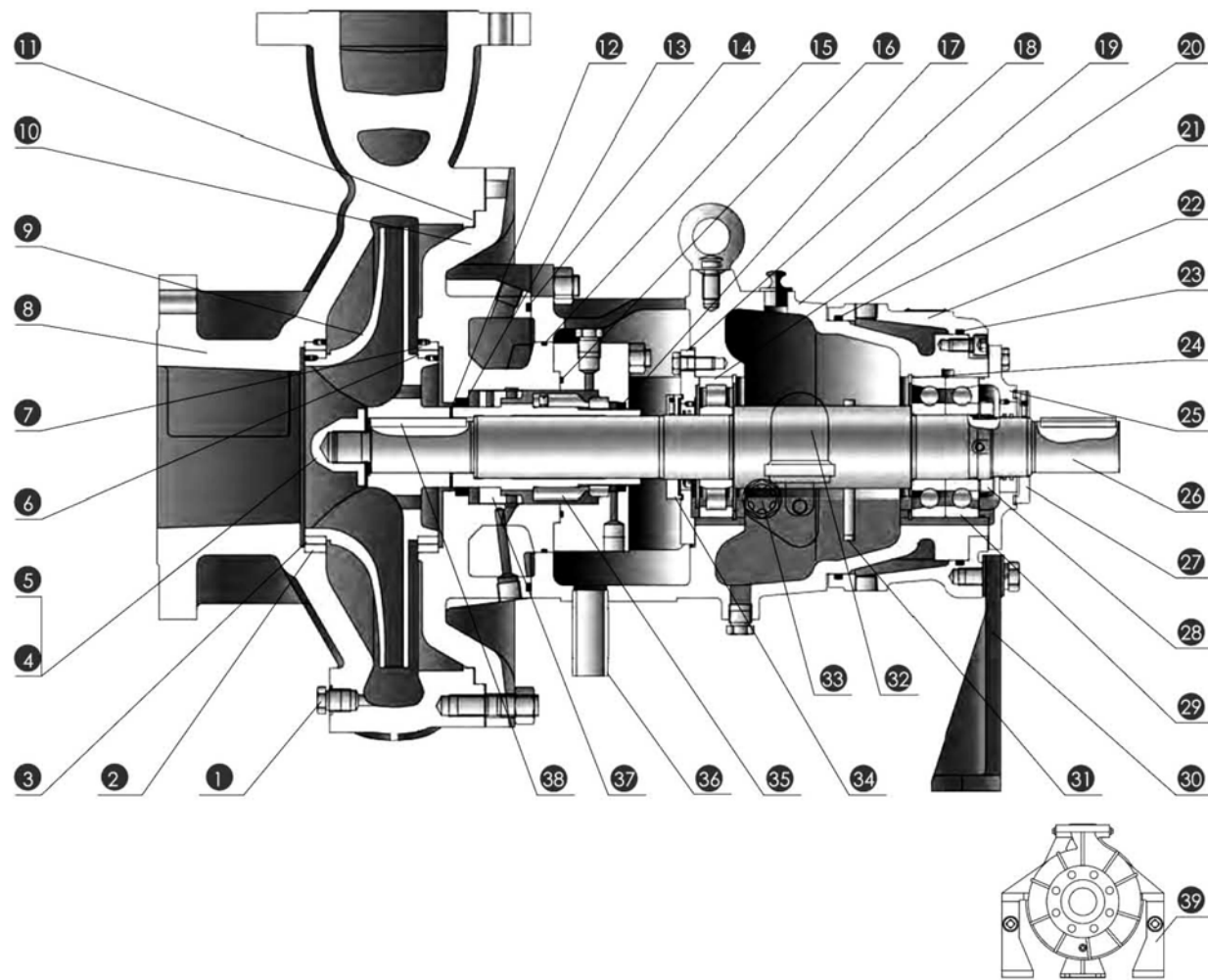
■ 泵外型、安装尺寸 Pump appearance and installation size

| 型号<br>Model | 电机型号<br>Model of motor | 轴承架号<br>Number of<br>support<br>stand<br>of bearing | A   | I   | L1   | L2  | L3  | L4   | L    | B1  | B   | h   | h1  | H   | n3-Md3×L  | 重量<br>weight<br>kg |
|-------------|------------------------|-----------------------------------------------------|-----|-----|------|-----|-----|------|------|-----|-----|-----|-----|-----|-----------|--------------------|
| 250-560     |                        | 5                                                   | 290 | 155 |      |     |     |      |      |     |     |     |     |     |           |                    |
| 300-400     | Y280M-4/90             | 4                                                   | 300 | 155 | 1400 | 700 |     | 2000 | 2275 | 670 | 720 |     |     | 600 | 6-M16x220 | 1368               |
|             | Y315S-4/110            |                                                     |     |     |      |     |     |      | 2475 |     |     |     |     |     |           | 1763               |
|             | Y315M1-4/132           |                                                     |     |     | 1600 | 800 | 320 | 2240 | 2475 | 730 | 780 | 590 | 510 | 640 | 6-M20x400 | 1763               |
|             | Y315M2-4/160           |                                                     |     |     |      |     |     |      | 2475 |     |     |     |     |     |           | 1763               |
| 300-500     |                        | 5                                                   |     |     |      |     |     |      |      |     |     |     |     |     |           |                    |

说明：本表只提供了配套Y、YB系列小于160kw电机的安装尺寸，配套大于等于185kw的电机的安装尺寸请提供电机型号后来函索取安装尺寸。

Explanation: This table only provides the installation dimension suited for motors less than 160 KW of Y and YB series; for the installation dimension of motors more than 185KW, please provide the motor model and ask for the installation

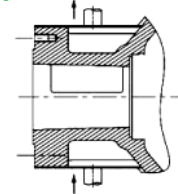
## ■ 剖面图 Sectional Drawing



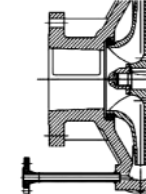
| NO. | 名称 Name                          | NO. | 名称 Name                     | NO. | 名称 Name                      | NO. | 名称 Name                 |
|-----|----------------------------------|-----|-----------------------------|-----|------------------------------|-----|-------------------------|
| 1   | 管堵Pipe close                     | 11  | 密封垫Seal                     | 21  | O型圈 O ring                   | 31  | 油环Oil ring              |
| 2   | 泵体密封环<br>Pump body sealring      | 12  | 密封垫Seal                     | 22  | 冷却水套<br>Cooling water jacket | 32  | 油杯Oil Cup               |
| 3   | 叶轮密封环<br>Impeller sealing ring   | 13  | 喉部衬套<br>Throat bushing      | 23  | O型圈 O ring                   | 33  | 油标 Oil standard         |
| 4   | 叶轮螺母Impeller nut                 | 14  | O型圈 O ring                  | 24  | 孔用挡圈 Hole Collar             | 34  | 左防尘盘Left dust pan       |
| 5   | 密封垫Sealing gasket                | 15  | O型圈 O ring                  | 25  | 右轴承压盖<br>Right bearing cover | 35  | 机械密封<br>Mechanical seal |
| 6   | 叶轮密封环<br>Impeller sealing ring   | 16  | O型圈 O ring                  | 26  | 轴<br>Axis                    | 36  | 接管<br>Take over         |
| 7   | 泵盖密封环<br>Pump cover sealing ring | 17  | 节流衬套<br>Throttle sleeve     | 27  | 右防尘盘<br>Right dust pan       | 37  | 泵送环Pumping ring         |
| 8   | 泵体Pump body                      | 18  | 左轴承压盖<br>Left bearing cover | 28  | 圆螺母<br>Round nut             | 38  | 叶轮键Impeller key         |
| 9   | 叶轮 Impeller                      | 19  | 悬架<br>Suspension            | 29  | 推力轴承<br>Thrust Bearings      | 39  | 泵支架Pump bracket         |
| 10  | 泵盖 Pump cover                    | 20  | 径向轴承<br>Thrust Bearings     | 30  | 支脚Feet                       |     |                         |

## ■ 密封介绍 Seal introduced

### ● 特殊结构Special structure

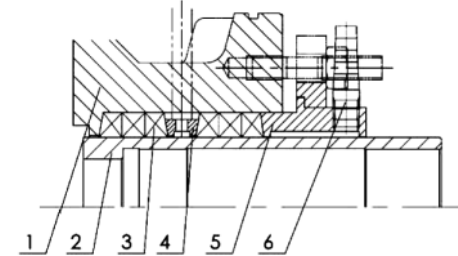


保温型Thermal insulation type

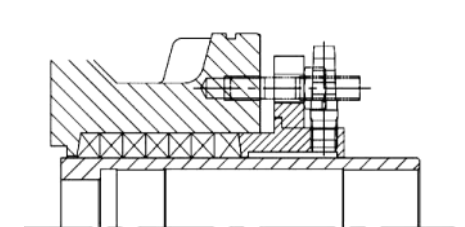


法兰式排液口Flange type liquid discharging port

### ● 轴封结构Shaft seal structure

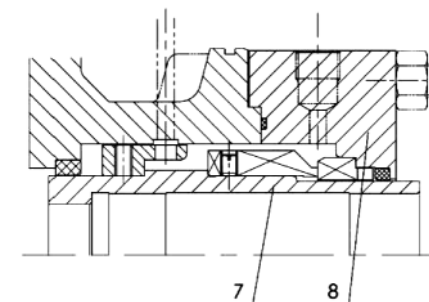


带填料环的水冷填料密封  
Water filling with packing ring seal

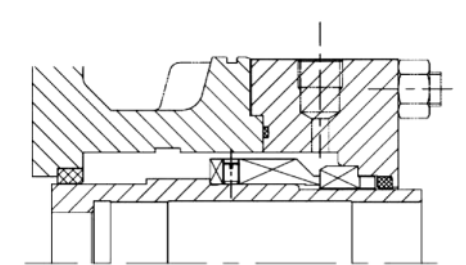


无填料环的水冷填料密封  
Water filling without packing ring seal

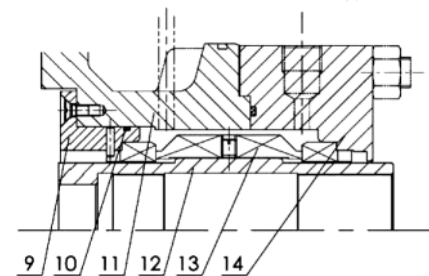
### ● 轴封结构Shaft seal structure



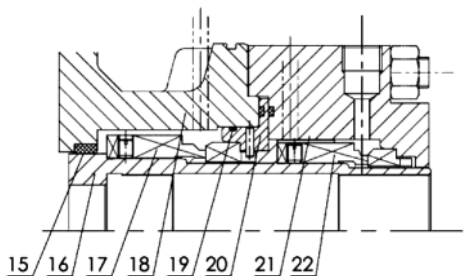
带泵送环的单端面平衡型机械密封Plan23  
Single face balanced mechanical belt pumping ring seal Plan23



单端面平衡型机械密封Plan 11、21、32  
Single face balanced mechanical seal Plan 11,21,32



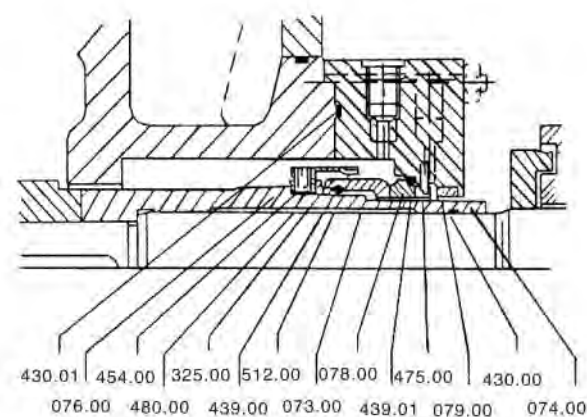
双端面平衡型机械密封Plan52、54、62  
Double end face mechanical seal type, balance of Plan 52,54,62



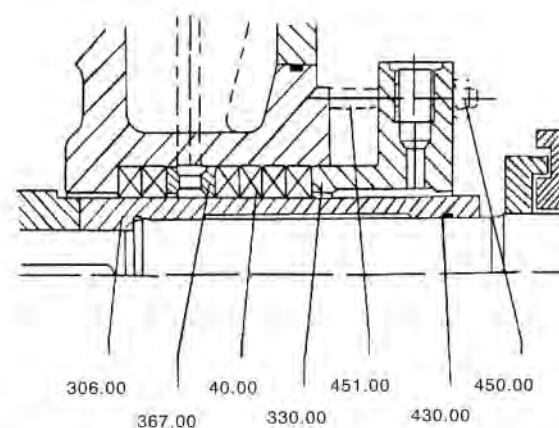
串联型机械密封Plan (11、21) + (52、54、62)  
The series of mechanical seal of Plan (11, 21) + (52, 54, 62)

| 1                           | 2                       | 3            | 4                  | 5                         | 6           | 7                 | 8                           | 9                            | 10                          | 11                | 12                        | 13                       |
|-----------------------------|-------------------------|--------------|--------------------|---------------------------|-------------|-------------------|-----------------------------|------------------------------|-----------------------------|-------------------|---------------------------|--------------------------|
| 泵盖P<br>Pump cover           | 轴套P<br>Axle sleeve      | 填料<br>Filler | 填料环<br>Filler ring | 填料压盖<br>Filler gland      | 接头<br>Joint | 轴套S<br>Sleeve     | 机封压盖S<br>Machine Seal Gland | 静环座1<br>Stationary ring seat | O形圈6<br>O ring 6            | 泵盖D<br>Pump cover | 轴套D<br>Axle sleeve        | 机械密封D<br>Mechanical seal |
|                             |                         |              |                    |                           |             |                   |                             |                              |                             |                   |                           |                          |
| 14                          | 15                      |              | 16                 | 17                        |             | 18                | 19                          | 20                           | 21                          |                   | 22                        |                          |
| 机封压盖D<br>Machine Seal Gland | 喉部衬套2<br>Throat bushing |              | 轴套T<br>Axle Sleeve | 机械密封T1<br>Mechanical seal |             | 泵盖T<br>Pump cover | O形圈7<br>O ring              | 静环座2<br>Stationary ring seat | 机封压盖T<br>Machine Seal Gland |                   | 机械密封T2<br>Mechanical seal |                          |

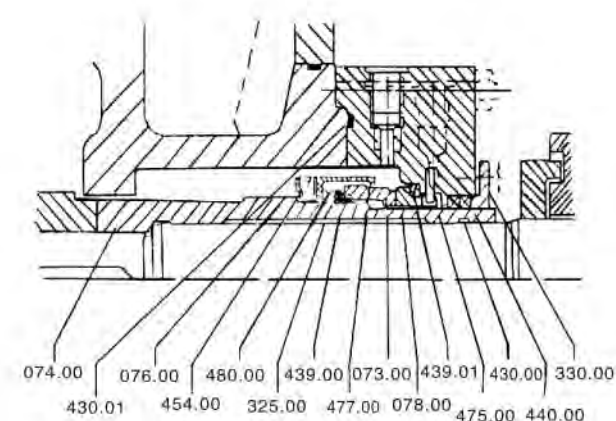
## ■ 轴封 Shaft seals



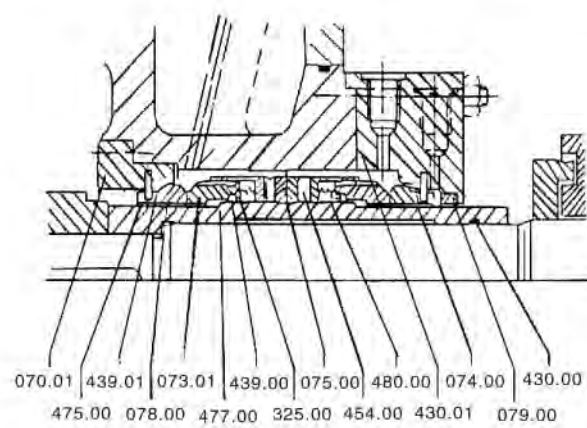
单端面平衡型机械密封  
Single mechanical seal balanced



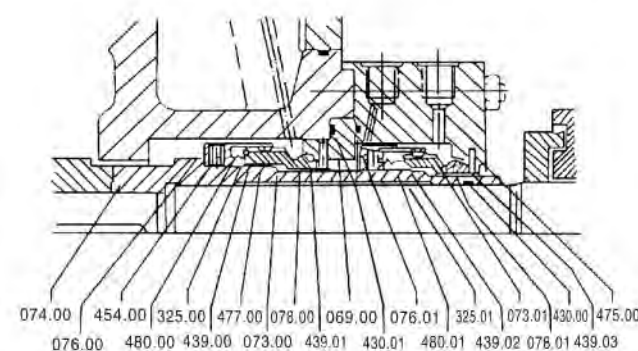
带冷却夺盖和水封环的填料密封  
Packed stuffing box with lantern ning and gland cooling



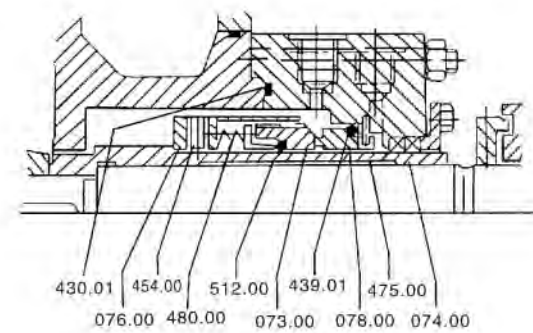
带辅助填料密封的单端面平衡型机械密封  
Single mechanical seal balanced with auxiliary stuffing box



带加压系统的双端面平衡型机械密封  
Double mschainical seal balanced, with pressurized system



串联式机械密封  
Tandem mechanical seal.



单端面非平衡型机械密封  
Single mechanical seal unbalanced

| 轴承支架号<br>Bearing beacket size | 机械密封型式 Mechanical seal size |                              |                    |                    |
|-------------------------------|-----------------------------|------------------------------|--------------------|--------------------|
|                               | 单端面平衡型<br>Single balanced   | 单端面非平衡型<br>Single unbalanced | 双端面<br>Double      | 串联式<br>Tandem      |
| Lk0                           | 119B-028                    | 106U-028                     | 119B-028/119B-028  | 119B-028/119B-024  |
| Lk1                           | 119B-033                    | 106U-038                     | 119B-028/119FB-038 | 119B-038/119B-033  |
| Lk2                           | 119B-043                    | 106U-048                     | 119B-048/119FB-048 | 119B-048/119FB-043 |
| LK3                           | 119B-053                    | 106U-060                     | 119B-060/119FB-060 | 119B-060/119FB-053 |
| LK4                           | 119B-065                    | 无 None                       | 119B-070/119FB-070 | 119B-070/119FB-065 |
| Lk5                           | 119B-075                    | 无 None                       | 119B-080/119FB-080 | 119B-080/119FB-075 |
| LK6                           | 119B-095                    | 无 None                       | 119B-100/119FB-100 | 119B-100/119FB-095 |
| LK7                           | 无 None                      | 无 None                       | 无 None             | 无 None             |

## ■ 轴封零件单 Shaftseals part list

|                                    |                                |                         |
|------------------------------------|--------------------------------|-------------------------|
| 069.00 静环座 Stat. seal ring pick-up | 306.00 轴套 Shaft sleeve         | 439.03 密封垫 Sealing ring |
| 070.01 静环座 Cover                   | 325.00 圆板 Disc                 | 440.00 填料 Packing ring  |
| 073.00 动环 Rot.seal ring            | 325.01 圆板 Disc                 | 451.00 双头螺栓 Stud bott   |
| 073.01 动环 Rot.seal ring            | 330.00 填料压盖 Stuffing box glanc | 454.00 双头螺栓 Setscrew    |
| 074.00 轴套 Shaft sleeve             | 367.00 水封环 Lantern ring        | 460.00 螺母 Nut           |
| 076.00 弹簧座 Sleeve mech.seal        | 430.00 O型环 O-ring              | 475.00 销钉 Pin           |
| 076.01 弹费座 Sleeve mech.seal        | 430.01 O型环 O-ring              | 477.00 销钉 Pin           |
| 078.00 静环 Stat.seal ring           | 439.00 密封垫 Sealing ring        | 480.00 弹簧 Spring        |
| 078.01 静环 Stat.seal ring           | 439.01 密封垫 Sealing ring        | 480.01 弹簧 Spring        |
| 079.00 节流衬套 Throttling bush        | 439.02 密封垫 Sealing ring        | 512.00 开口环 Snap ring    |

## ■ 叶轮 Impellers



闭式叶轮  
Closed impeller



开式叶轮  
Open-impeller