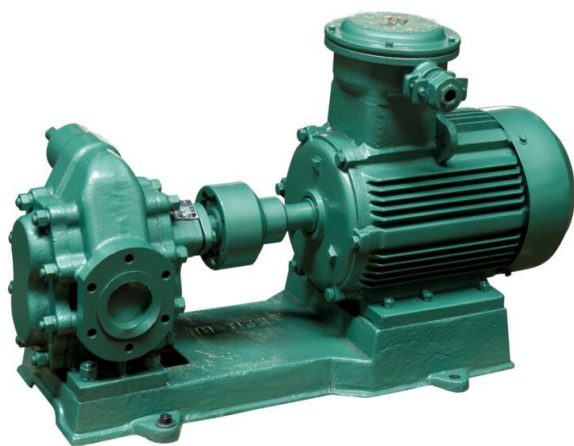




请详阅手册内容并善加保存
Please read and save this manual

KCB、2CY型齿轮输油泵

KCB & 2CY Type Gear Oil Pump



产品说明书 PRODUCTS SPECIFICATION

① 重要/IMPORTANT

操作人员在使用本产品前，请务必仔细阅读产品说明书，以确保操作安全。
Please ensure that these instructions are read and understood by machine operators before using the product

上海河山泵业有限公司

Shanghai Heshan Pump Co., Ltd.

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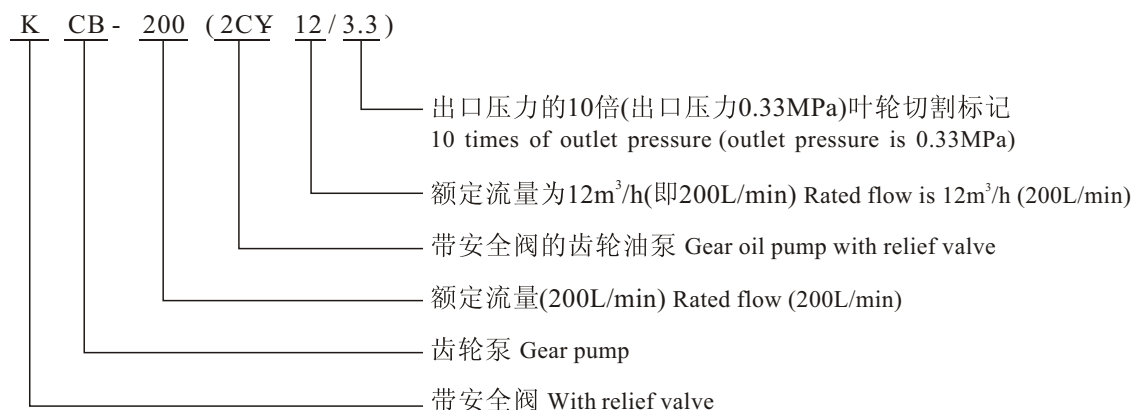
KCB、2CY型齿轮输油泵

概述 OUTLINE

KCB型齿轮输油泵适用于输送各种油类，如原油、柴油、润滑油。杨用铜齿轮可输送低闪点液体，如汽油、苯等。介质温度不超过70℃，如需使用耐高温泵，可同本单位联系配用耐高温材料即可。耐高温泵的使用温度不超过300℃，粘度为 $5 \times 10^{-5} \sim 1.5 \times 10^{-3} \text{m}^2/\text{s}$ 。不含固体颗粒和纤维物、无腐蚀性的润滑油、重油、工业轻油和食油等油类都可输送。适用于油库、码头、船舶、工厂、农场、矿山等。

KCB type gear oil transferring pumps are applicable to transfer various kind of oil like crude oil, diesel, lubricating oil. If equipped with copper gears they can transfer low flash point liquid like gasoline and benzene and soon on. Temperature of medium is not over 70℃. If for high temperature resistant pump, only change material to high temperature resistant type material. for this kind of pump, the temperature can't be over 300℃, viscosity should be $5 \times 10^{-5} \sim 1.5 \times 10^{-3} \text{m}^2/\text{s}$. Lubricating oil, heavy oil, light oil for industry purpose, edible oil which are free of solid and fibre, no corrosion. They are applicable in bulk plants, wharf, water crafts, factories, farmers and mines and so on.

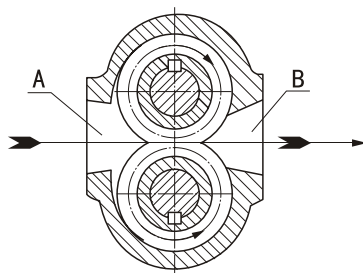
型号意义 MODEL MEANING



工作原理 WORKING PRINCIPLE

本型泵在泵体中装有一对回转齿轮，一个主动，一个被动，依靠两齿轮的相互啮合，把泵内的整个工作腔分为两个独立的部分。(右图)A为吸入腔，B为排出腔。泵运转时主动齿轮带动被动齿轮旋转，当齿轮从啮合到脱离时在吸入侧(A)就形成局部真空，液体被吸入。被吸入的液体充满齿轮的各个齿谷而带到排出侧(B)，齿轮进入啮合时液体被挤出，形成高压液体并经泵的排出口排出泵外。

A pair of reverse gears are fitted in this type of pump, one is drive, the other is passive, depend on mesh between the two gears, the whole operating chamber is divided into two independent parts. As right drawing, A is suction chamber, B is discharge chamber. When pump runs, drive gear lead the passive gear rotate, when gear work from mesh to depart, a partial vacuum will occure at suction side (A), the liquid is sucked in the sucked liquid is fill each gear valley and lead to outlet side (B), when gear mesh, the liquid is squeezed out and become high pressure liquid, then drained from exhaust port.



结构与特性 STRUCTURAL AND FEATURES

1、结构

(1) 本型泵是卧式回转泵，主要由泵体、齿轮、轴承座、安全阀、轴承及密封装置等机件组成。

(2) 泵体、轴承座等为灰铸铁件，齿轮用优质碳素钢材制作，亦可根据用户特殊需要用铜材料或不锈钢材料制作。

(3) 轴承座上有一填料函室，起轴向密封作用。

KCB-300~960 型泵采用机械密封装置，轴承采用单列向心球轴承。KCB-18.3~83.3 型泵采用三个耐油橡胶圈和中间衬隔的一个挡圈组成，调节压紧盖上的两只螺母来调节密封的程度，轴承采用铜基粉末含油轴承。另外，本系列泵均可采用填料密封，以弹性好，耐高温和低温、化学性质稳定且有润滑性能的柔性石墨作为填料。

(4) 泵内装有安全阀，当泵或排出管道发生故障或误将排出阀门完全关闭而产生高压和高压冲击时，安全阀就会自动打开，卸除部分或全部的高压液体回到低压腔，从而对泵及管道起到安全保护作用。

(5) 用弹性联轴器直接与驱动电机联接，并安装在公共铸铁底盘上。

2、特性

(1) 本型泵结构简单紧凑，使用和保养方便。

(2) 本系列泵具有良好的自吸性，故每次开泵前无须灌入液体。

(3) 本型泵的润滑是靠输送的液体而自动达到的，故日常工作时无须另加润滑油。

(4) 利用弹性联轴器传递动力可以补偿因安装时引起的微小偏差。在泵工作中受到不可避免的液压冲击时，能起到良好的缓冲作用。

1. Structure

(1) This type of pumps are horizontal reverse pump, which is composed of casing, gear, bearing seat, relief valve, bearing and sealing device and so on.

(2) Casing and bearing seat are made of cast iron gear is made of superior carbon steel, if customers require, it can also be made of copper and stainless steel.

(3) There is a packing gland in the bearing seat, for axial seal purpose. KCB-300~960 type pumps adopt mechanical seal device, bearing is single row radial ball bearing. KCB-18.3~83.3 type of pumps are composed of three oil-proof rubber seals and middlelined retainer, adjust two nuts in the gland to control seal. Copper beryllium powder with oil bearing. Additionally, this series of pumps can be fitted with packing gland, features of good sealing, high & low temperature resistant, steady chemical nature and the packing is supply graphite with self lubricating property.

(4) In the pump there is a relief valve, when failures occur to the pump or exhaust pipeline, or completely close the discharge valve by mistake to produce high pressure or high pressure impact, relief valve will be opened automatically, to spoil partial or all high pressure liquid return to low pressure chamber, thus it keeps safety and protect pumps and pipelines.

(5) Directly connect with drive motor with flexible coupler, and installed on a public cast iron base

2. Features

(1) This type of pump is in smart and impact structure, convenient operation and maintenance.

(2) This series of pump features of good self-priming, so it is not necessary to pour lubricant for ordinary work.

(3) The lubrication of this type of pumps are automatically completed by transferring liquid, so no lubricant will be poured for ordinary work.

(4) Transmit power with flexible coupler can compensate little deviation from installation. The coupler can be in buffer action when pump is impacted by inevitable pressure surge.

KCB、2CY型齿轮输油泵

KCB(2CY)型泵性能参数表 KCB(2CY) TYPE PUMP PERFORMANCE TABLE

型号 Type	流量 Flow (m ³ /h)	压力 Pressure (MPa)	真空度 Vacuity (MPa)	进出口径 In-outlet caliber (mm)	功率 Power (kw)	允许介质最大粘度 Allow Max.viscosity of medium
KCB18.3 2CY1.1/14.5-2	1.1	1.45	0.05	3/4"	1.5	500
KCB33.3 2CY2/14.5-2	2	1.45	0.05	3/4"	2.2	500
KCB55 2CY3.3/3.3-2	3.3	0.33	0.05	1"	1.5	500
KCB55 2CY3.3/5-2	3.3	0.5	0.05	1"	2.2	500
KCB83.3 2CY5/3.3-2	5	0.33	0.05	1 1/2"	2.2	500
KCB83.3 2CY5/5-2	5	0.5	0.05	1 1/2"	3	500
KCB200 2CY8/3.3-2	8	0.33	0.05	2"	3	500
KCB200 2CY8/6-2	8	0.6	0.05	2"	4	500
KCB200 2CY12/1.3-2	12	0.13	0.05	2"	4	500
KCB200 2CY12/3.3-2	12	0.33	0.05	2"	5.5	500
KCB200 2CY12/6-2	12	0.6	0.05	2"	5.5	500
KCB200 2CY12/10-2	12	1.0	0.05	2"	7.5	500
KCB300 2CY18/3.6-2	18	0.36	0.05	3"	5.5	500
KCB300 2CY18/6-2	18	0.6	0.05	3"	7.5	500
KCB483.3 2CY29/3.6-2	29	0.36	0.05	3"	7.5	500
KCB483.3 2CY29/10-2	29	1.0	0.05	3"	11	500
KCB633 2CY38/2.8-2	38	0.28	0.05	4"	11	500
KCB960 2CY60/3-2	60	0.3	0.05	4"	18.5	500

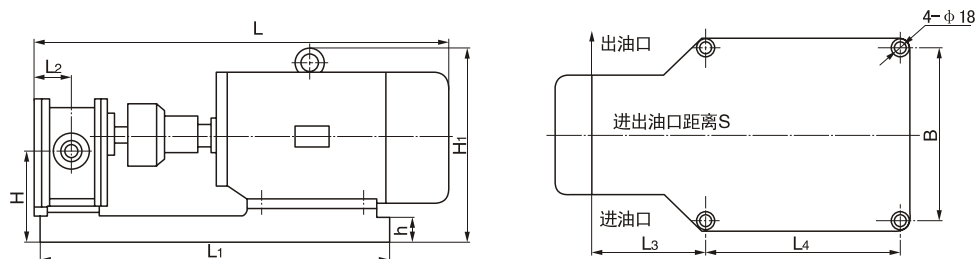
2CY型泵性能参数表 2CY TYPE PUMP PERFORMANCE TABLE

型号 Type	流量 Flow (m ³ /h)	压力 Pressure (MPa)	真空度 Vacuity (MPa)	进出口径 In-outlet caliber (mm)	功率 Power (kw)	备注 Remark
2CY1.08/10	1.08	1.0	0.05	3/4"	0.75	不锈钢齿轮泵 在型号末尾加 “P”
2CY1.08/25	1.08	2.5	0.05	3/4"	1.5	
2CY2.1/10	2.1	1.0	0.05	1"	1.5	
2CY2.1/25	2.1	2.5	0.05	1"	3	
2CY3/10	3	1.0	0.05	1"	2.2	
2CY3/25	3	2.5	0.05	1"	4	
2CY4.2/10	4.2	1.0	0.05	1 1/4"	3	
2CY4.2/25	4.2	2.5	0.05	1 1/4"	5.5	
2CY7.5/10	7.5	1.0	0.05	1 1/2"	4	
2CY7.5/25	7.5	2.5	0.05	1 1/2"	7.5	
2CY12/3.3	12	0.33	0.05	2"	5.5	
2CY12/10	12	1.0	0.05	2"	7.5	
2CY18/3.6	18	0.36	0.05	3"	5.5	
2CY29/10	29	1.0	0.05	3"	11	

可帮客户特殊生产其它非标参数及材质产品，如需请来电咨询！

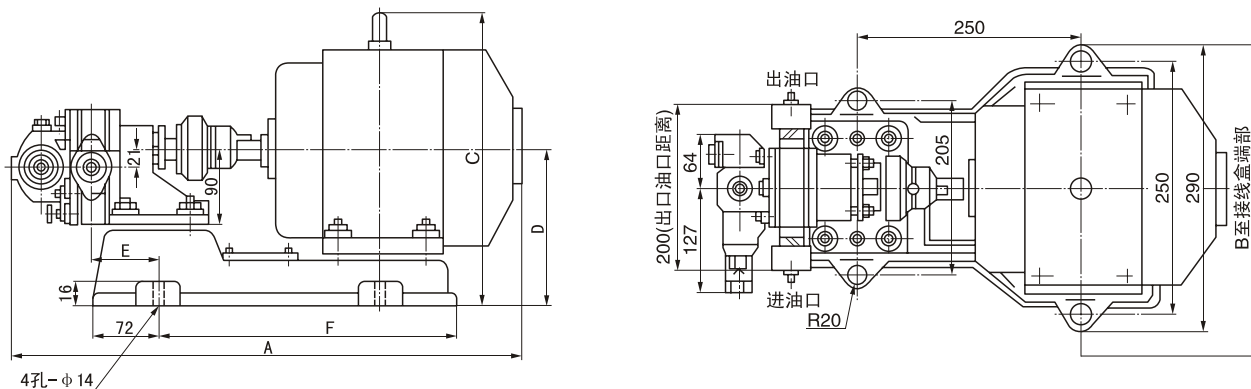
KCB、2CY型齿轮输油泵

2CY型泵安装尺寸图表 2CY TYPE PUMP INSTALLATION DIMENSION DARWING TABLE



型号 Type	H	H1	L	L1	L2	L3	L4	B	h	s
2CY1.08	120	227	524	479	53	138	270	230	37	95
2CY2.1	124	295	585	504	55	169	255	241	40	110
2CY3	126	305	599	515	55	156	290	274	40	110
2CY4.2	160	375	736	658	69	217	354	320	60	142
2CY7.5	160	375	776	658	69	217	354	320	60	142

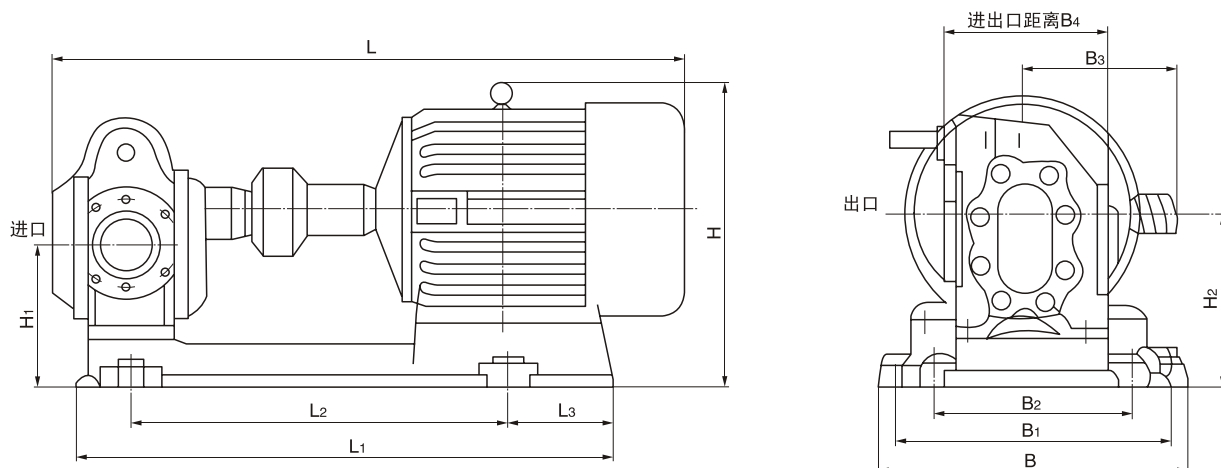
KCB18.3-83.3型、2CY1.1-5型泵安装尺寸图表 KCB 18.3-82.3, 2CY1.1-5 TYPE PUMP INSTALLATION DIMENSION DARWING TABLE



型号 Type	功率 Power (kw)	A	B	C	D	E	G"	F
KCB18.3-2 (2CY-1.1/14.5-2)	1.5	583	300	230	130	79	3/4"	335
KCB33.3-2 (2CY-2/14.5-2)	2.2	618	325	285	140	79	3/4"	365
KCB55-2 (2CY-3.3/3.3-2)	1.5	588	300	230	130	86.5	1"	335
KCB83.3-2 (2CY-5/3.3-2)	2.2	658	325	285	140	99	1 1/2"	365

KCB、2CY型齿轮输油泵

KCB300-960型、2CY8-150型安装尺寸图表 KCB300-960, 2CY8-150 TYPE PUMP INSTALLATION DIMENSION DARWING TABLE



型号 Type	L	L1	L2	L3	H	H1	H2	B	B1	B2	B3	B4
KCB-200 (2CY8/3.3-2)	800	705	450	116	415	187	225	390	340	250	210	法兰Flange:205 螺纹Thread:295
KCB-300 (2CY-18/3.6-2)	880	770	470	160	423	198	240	430	370	320	210	240
KCB-483.8 (2CY-29/3.6-2)	880	770	470	160	423	198	240	430	370	320	210	240
KCB-633 (2CY-38/2.8-2)	1150	995	649	215	540	250	305	505	440	325	247	290
KCB-960 (2CY-60/3-2)	1190	1030	675	220	555	260	315	510	440	325	247	290

KCB、2CY型齿轮输油泵

易损件明细表 EASY-WORN PARTS LIST

KCB(2CY)18.3~83.3型泵易损件 Easy-worn parts of KCB(2CY) 18.3~83.3 type pump

名称 Name	材料 Material	件数 Piece	备注 Remark
密封圈 Seal ring	柔性石墨 Flexible graphite	2	输送液温在200℃以上时配用 Fit when temperature of liquid transferred is over 200℃
安全阀弹簧 Spring of relief valve	弹簧中钢丝 Steel-wire of spring	1	
滑动轴承 Sliding bearing	6-6-3锡青铜粉 6-6-3 Tin-bronze powder	4	4件分为2种形状 Four pieces in two shapes
密封圈 Seal ring	耐油橡胶 Oil-proof rubber		输送液温在70℃以下时配用 Fit when temperature of liquid transferred is over 70℃

KCB(2CY)300~960型泵易损件 Easy-worn parts of KCB(2CY) 300~960 type pump

名称 Name	材料 Material	件数 Piece	备注 Remark
密封圈 Seal ring	柔性石墨 Flexible graphite	4	输送液温在200℃以上时配用 Fit when temperature of liquid transferred is over 200℃
安全阀弹簧 Spring of relief valve	中Ⅱ钢丝 Mid #2 steel-wire	1	
动环 Dynamic ring	T8A	1	
静环 Static ring	T8A	1	
止推板 Thrust plate	HT20-40	4	

注：泵出厂时不附带上述易损件，如需备件请在订货单中说明。

Note: Easy-worn parts will not go along with pump free of charge, or otherwise the easy-worn parts should be listed in purchase order.

使用注意事项 ITEMS SHOULD BE NOTED

1、安装前应检查泵在运输中是否受到损坏，如电机是否受潮，泵进出口的防尘盖是否损坏而使污物进入泵腔内部等。

2、安装管道前应先将管道内壁用清水或蒸汽清洗干净。安装时应避免管道的重理由泵来承担，以免影响泵的精度。管道各联接部位不得有漏气、漏液，否则会发生吸不上液体的现象。

3、为防止颗粒杂质等污物进入泵内，应在吸入口安装金属过滤网。

4、泵工作前应检查泵的各紧固件是否牢固；主动轴是否运转灵活；进出管道的阀门是否打开；泵的旋转方向是否符合要求(若从泵端向电机看，旋转方向为逆时针)。

5、注意泵的压力及真空表的读数应符合该泵所规定的技术规范以内。

6、注意填料函的工作，若发生泄漏，视其程度将压紧盖拧紧(不允许拧得过紧，以免填料函剧烈发热和密封圈迅速磨损)。

7、当泵在运转中有不正常的噪音或温升过高时，应立即停止泵的工作，进行拆检。

1. Check whether the pumps were damaged during transportation, such as whether the motor was damped, anti-dust cover of inlet and outlet damaged or not, so that the dirty enter the pump chamber and so on.

2. Clean inner wall of pipes with pure water or steam before installation. When install the pipelines try to avoid weight bearing by pump in case of influence of precision of pumps. There should be no air or liquid leakage occur at the joints, or otherwise, there will be no liquid sucked.

3. To avoid impurities like particles entering, a metal strainer should be fitted at the inlet.

4. Check bolts and nuts of pump whether firm or not, driving shaft whether sensitive or not, the valve of inlet and outlet pipeline open or not, the direction of rotation whether meet requirements or not (view motor from pump end, rotating direction is anti-clockwise)

5. Note that pressure of pump and read of vacuum gauge should within specification of pump.

6. Pay attention to operation of gland box, if leakage occur, tighten gland according to the condition. (can't tighten too much to avoid fast wearing of seal ring and acute heat)

7. If there is abnormal noise or too high temperature rise during operation of pump, stop pump, dismantle and check.

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8、一般情况下，不得任意调整安全阀，如需调整时，要用仪器校正。使安全阀的封阀压力分别为KCB-18.3型、KCB-33.3型为1.7MPa，KCB-55型、KCB-83.3型、KCB-300型、KCB-483.3型为0.45MPa。

9、泵停止时须先切断电源，然后关闭进出管道的阀门。

8. Generally, relief valve should not be adjusted freely, if do, alignments should be made. Pressure of valve-close should be 1.7MPa for KCB-18.3 type. KCB-33.3 type, 0.45 Mpa for KCB-55 type, KCB-83.3 type, KCB-300 type. For KCB-200 and three type of pumps, the pressure should be 0.45MPa, 0.8MPa, 1.4MPa separately.

9. When stop, the power should be cut off, then close valve at inlet and outlet of pipeline.

故障原因及解决方法 FAILURES CAUSES AND TROUBLESHOOTING

故障现象 Failure	故障原因 Causes	排除方法 Troubleshooting
1、不排油或排油量少 No oil discharge or insufficient	a、吸放高度超过额定值; Suction head is above rated b、吸入管道漏气; Gas leaking from suction pipelines c、旋转方向不对; In wrong rotating direction d、吸入管道堵塞或阀门关闭; Clogging at inlet pipelines or valve close e、安全阀卡死或研伤; Relief valve got stuck or grind error f、液体温度低而粘度增大。	a、提高吸入液面; Raise liquid level of sucked b、检查各接合处，最好加石棉等密封材料加以密封; Check all joints, asbestos and such like sealing material is much better to fill for seal c、按泵的所示方向纠正; Correct it upon the shown direction on the pump d、检查管道是否堵塞，阀门是否全开; Check pipeline whether clogged and valve open or not e、拆开安全阀清洗并用细研磨砂研磨阀孔，使其吻合; Dismantle relief valve and clean, abrade valve holes with fine grinding wheel to make it mesh f、预热液体，如不可能，则降低排出压力或减小排出流量。 Preheat the liquid, if impossible, lower the discharge pressure or reduce discharge flow
2、密封漏油 Leaking from seals	a、轴封未调整好; Seal of shaft is not well adjusted b、密封圈磨损而间隙增大; Seal ring wore the gap is enlarged c、机械密封动静环的磨擦面损坏或有毛刺、划痕等缺陷; Friction face of dynamic and static ring damaged or there are defects like burrs and nicks d、弹簧松弛。 Loosen spring	a、重新调整; Re-adjust b、适量拧紧调节螺母或更换密封圈; Properly tighten nuts or replace seal ring c、更换动静环或重新研磨; Replace dynamic and static ring or re-abrade d、更换弹簧。 Replace spring
3、噪音或振动大 Too large noise or vibration	a、吸入管或过滤网堵塞; Suction pipe or strainers are blocked b、吸入管伸入液面较浅; Suction pipe shallow extends into the water c、管道内进入空气; Air enters the inlet pipe d、排出管道阻力太大; Too large resistance at discharge pipeline e、齿轮轴承或侧板严重磨损; Gear bearing or side panel terribly wore f、回转部分发生干燥; Reverse part is dry g、吸入液体的粘度太大; Heavy viscosity of the liquid sucked h、吸入高度超过额定值。 Suction height is above rated	a、消除过滤网上的污物; Remove dirt on the strainer b、增加吸入管伸入液池的深度; Extend deep the suction pipe under liquid c、检查各联接处，使其密封; Check all joints and seal them d、检查排出管道及阀门是否堵塞; Check discharge pipeline and valves for block e、拆下清洗，并修整缺陷或更换; Dismount and clean, repair defects and replace f、拆下检查并排除故障; Dismount and check and resolve problems g、进行粘度测定; Measure viscosity h、提高吸入液面。 Raise level of sucked liquid



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