



PUMPSEEN

帕普生泵业

高质量的产品，至诚至善的服务，是我们孜孜不懈的追求。

重视客户的意见反馈，使我们产品和服务不断改进、提高。

创新、诚信、奋斗、需求导向是帕普生人共同的价值观。

High-quality products and sincere, excellent service are our relentless pursuits.

Valuing customer feedback enables us to continuously improve and enhance our products and services.

Innovation, integrity, dedication, and a demand-driven approach are the shared values of Pumpseen employees.



餐厨垃圾 行业应用手册

Handbook for the
Kitchen Waste Industry Applications

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—— 帕 普 生 泵 业 ——
—— Pumpseen Pumps Co., Ltd ——

Company INTRODUCTION

企业简介

帕普生，致力于成为全球一流流体输送设备供应商。

在北京设立营销中心，在上海设立研发中心，在安徽设立生产中心，并在全国各省会城市设立办事处，服务于全国各行业客户。

公司拥有完善的生产设施和研发体系，成套检测设备和泵测试平台，坚持以技术创新为动力，以前瞻性的战略眼光，对行业相关技术进行高投入的技术研发，以“创新”为使命，研发生产制造转子泵、螺杆泵、齿轮泵等系列产品。

21 世纪初，帕普生团队将转子泵相关技术引入中国，助力了转子泵在中国工业行业应用的新时代。近 10 年来，帕普生基于庞大的客户应用基础和对转子泵相关技术的深刻理解和掌握，持续加大创新力度，通过严把研发质量关，严把物料采购关，严把生产过程关，严把产品放行关，严把售后服务关，确保产品合格且高品质出厂。在高粘度，高温，高磨损性介质输送的相关技术领域不断攻坚，特别是耐磨损技术和机械密封技术不断突破，产品使用寿命延长，性能大幅提升。

帕普生，专注为客户提供流体输送解决方案。我们在流体输送领域深耕细作，为客户提供定制化解决方案，为企业打造良好的合作体验，服务全球用户，助力客户成就未来。

Pumpseen is dedicated to becoming a world-class supplier of fluid transportation equipment.

We have established a marketing center in Beijing, an R&D center in Shanghai, a production center in Anhui, and offices in provincial capitals across the country, serving clients in various industries nationwide.

The company boasts comprehensive production facilities, a robust R&D system, complete testing equipment, and a pump testing platform. Driven by technological innovation and a forward-looking strategic vision, Papusen invests heavily in industry-related technologies to develop and manufacture a series of products, including rotary pumps, screw pumps, and gear pumps, with "innovation" as our mission.

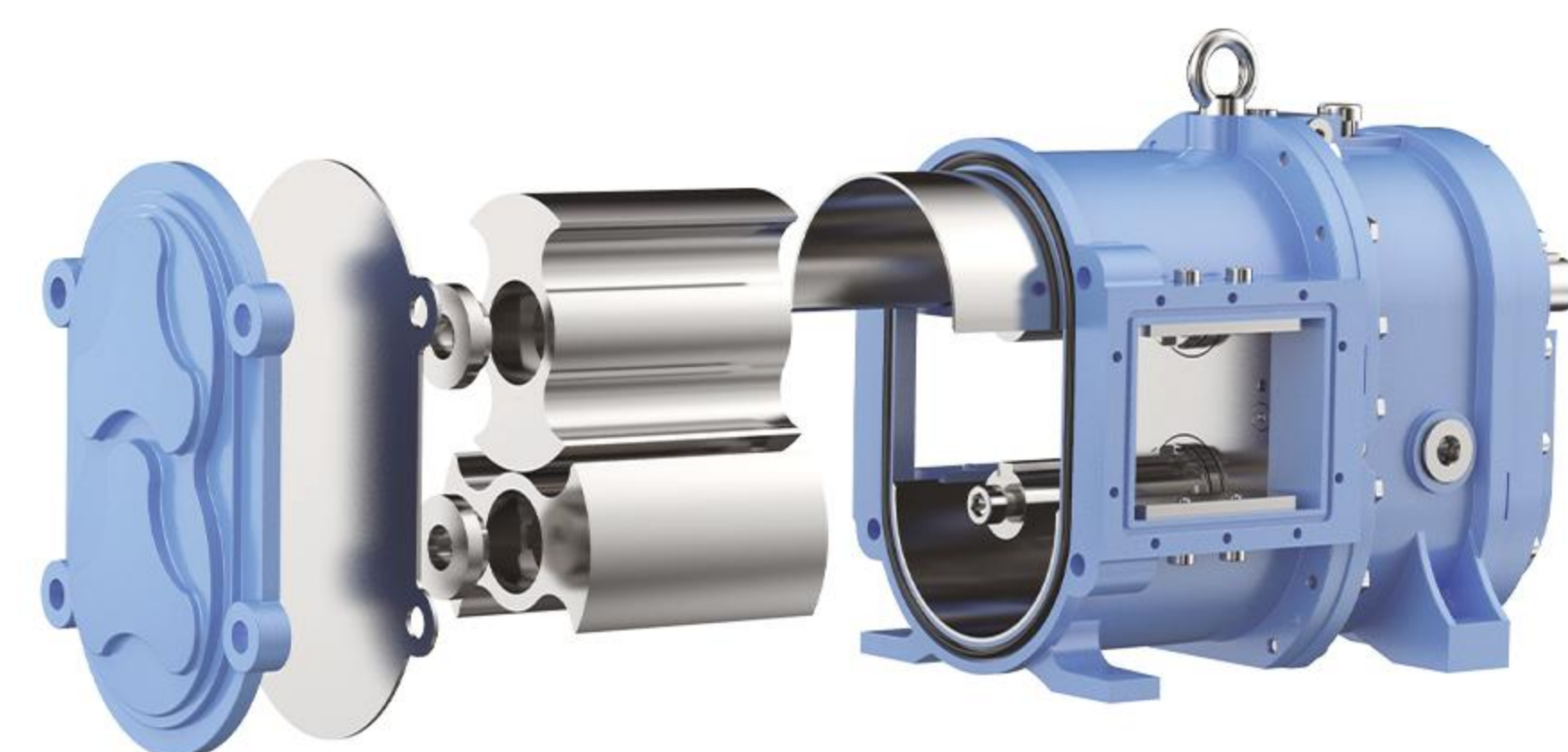
In the early 21st century, the Pumpseen team introduced rotary pump technology to China, ushering in a new era of industrial application. Over the past decade, Pumpseen has leveraged a vast customer base and a deep understanding of rotary pump technology to intensify innovation. By strictly controlling R&D quality, material procurement, production processes, product release, and after-sales service, we ensure that our products are qualified and high-quality. We continue to tackle challenges in the field of high-viscosity, high-temperature, and high-wear-resistant media transportation, making breakthroughs in wear-resistant technology and mechanical sealing technology, thus extending product life and significantly enhancing performance.

Pumpseen focuses on providing customers with fluid transportation solutions. We delve deep into the fluid transportation field to offer customized solutions, create excellent cooperation experiences for enterprises, serve global users, and help customers achieve future success.



输送技术

Transport Technolog



帕普生转子泵，又称凸轮泵，是容积式泵家族里一个非常重要的角色。泵结构紧凑，占地面积小，广泛应用于多种行业工况，用于输送高含固率，高磨损，高粘度的介质。此外，转子泵具有高自吸能力，正反可逆的输送特点，流量大小与转速成正比的线性特性，转子的材质类型及泵的安装形式非常多样化，能满足多种需求。

Pumpseen rotor pumps, also known as lobe pumps, play a crucial role in the family of positive displacement pumps. They feature a compact structure and small footprint and are widely used in various industries to transport media with high solid content, high wear resistance, and high viscosity. Additionally, rotor pumps offer high self-priming capability, reversible transport, flow rate proportional to speed, diverse rotor materials, and versatile installation forms to meet various needs.

技术优势

- 可输送高含固率、高粘度的介质；
- 具有强自吸能力，标准大气压下自吸高度可达8.5m以上，启动无需灌液；
- 流量与转速成正比关系，几乎不随压力变化，通过改变驱动转速，即可实现流量任意调节；
- 结构完称，具有正反可逆运行特性；
- 具有低脉动，低剪切，低扰动的输送特性，可输送对剪切敏感的介质；
- 结构紧凑，安装方式灵活，占地空间小；
- 具有在线维护特性，维修不需拆动管线及驱动部分；
- 内衬不锈钢衬板，降低备件磨损程度，大幅延升使用寿命。

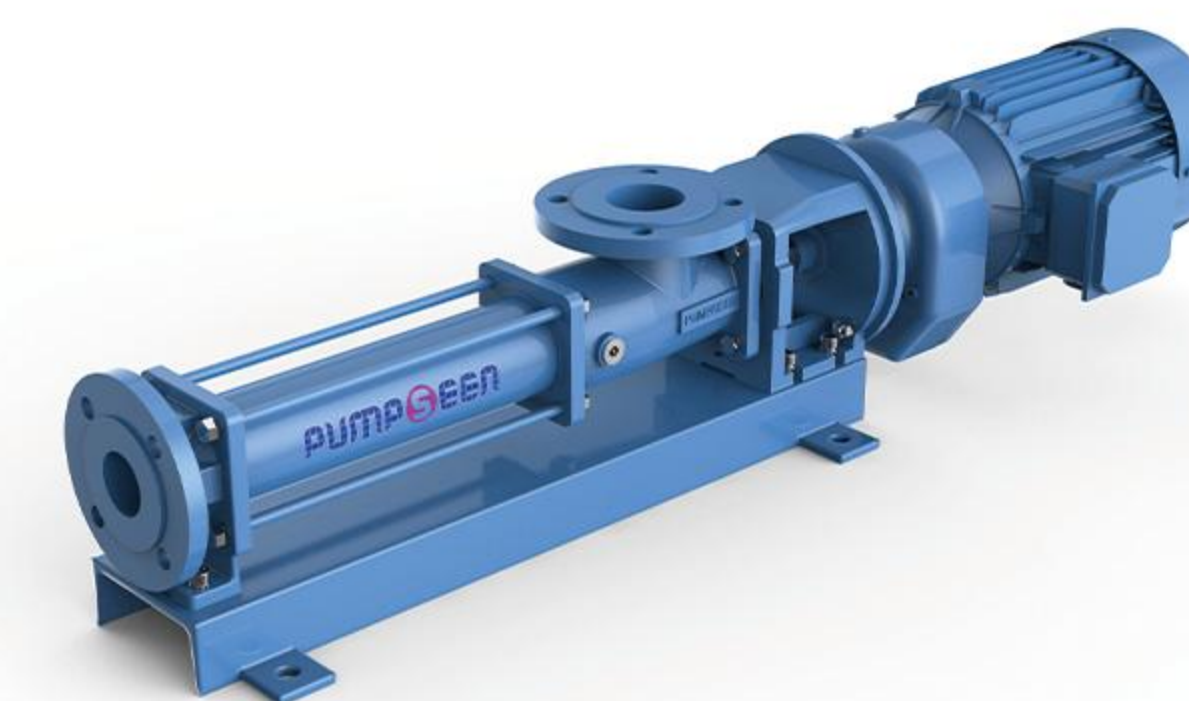
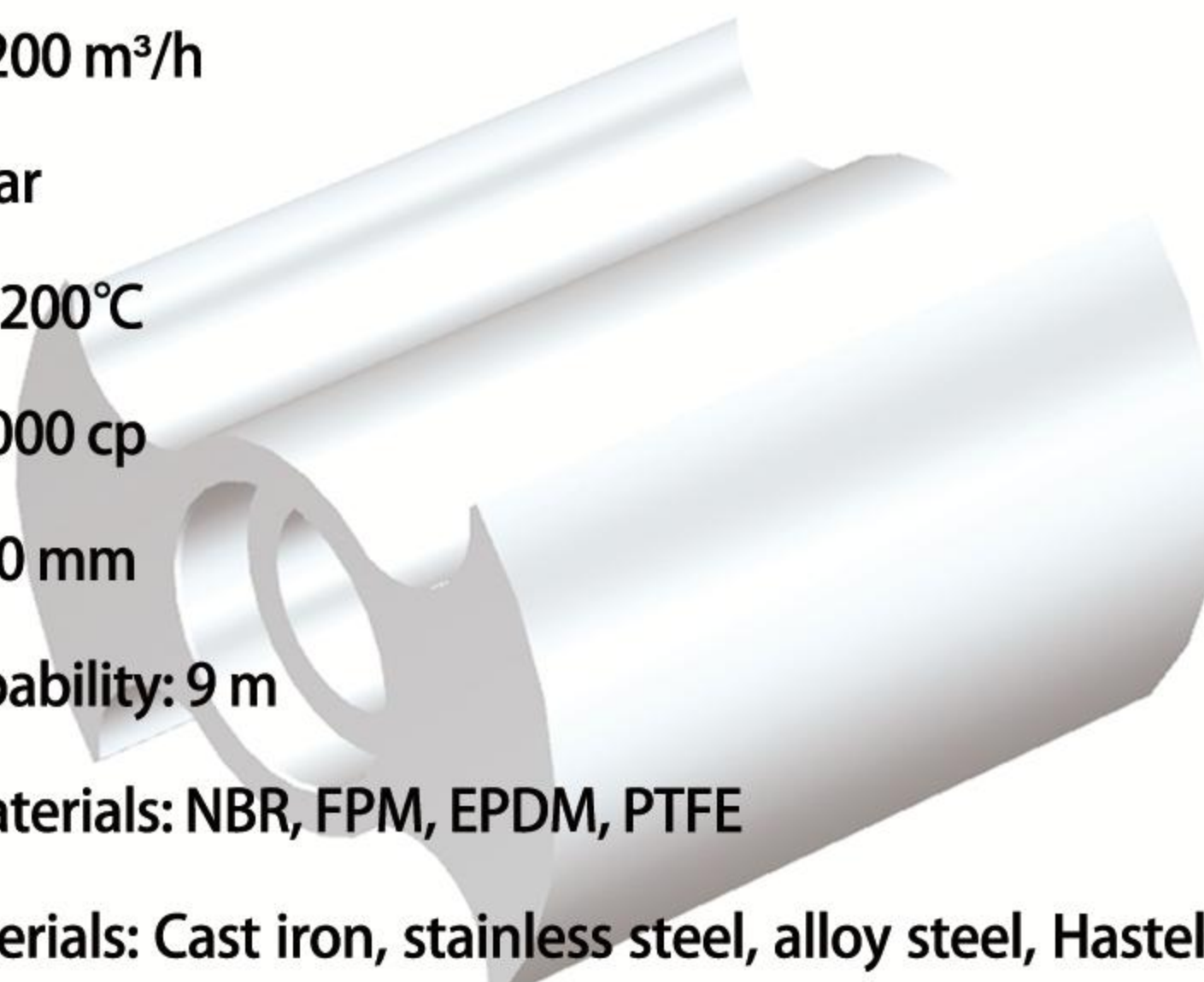
Technical Advantages:

- Capable of transporting media with high solid content and high viscosity.
- Strong self-priming ability; self-priming height can reach over 8.5 meters under standard atmospheric pressure, eliminating the need for priming.
- Flow rate is proportional to speed, allowing for arbitrary flow adjustment by changing the drive speed.
- Complete structure with reversible operation characteristics.
- Low pulsation, low shear, low disturbance transport, suitable for shear-sensitive media.
- Compact structure, flexible installation, small footprint.
- Online maintenance without dismantling pipelines or the drive part.
- Stainless steel lining reduces wear on spare parts, significantly extending service life.

多重选择 Multiple Choices:

- ★流量：0.1-1200m³/h
- ★压力：0-12Bar
- ★温度：0-200℃
- ★黏度：1-500000cp
- ★通过颗粒物：0-90mm
- ★自吸能力：9m
- ★橡胶转子材质：NBR;FPM;EPDM;PTFE
- ★金属转子材质：铸铁；不锈钢；合金钢；哈式合金等

- ★Flow rate: 0.1-1200 m³/h
- ★Pressure: 0-12 Bar
- ★Temperature: 0-200℃
- ★Viscosity: 1-500000 cp
- ★Particle size: 0-90 mm
- ★Self-priming capability: 9 m
- ★Rubber rotor materials: NBR, FPM, EPDM, PTFE
- ★Metal rotor materials: Cast iron, stainless steel, alloy steel, Hastelloy, etc.



螺杆泵（单螺杆泵）是一种内啮合的密闭式螺杆泵，属转子式容积泵。主要工作部件由具有双头螺旋空腔的定子和在定子孔内与其啮合的单头螺旋螺杆即转子组成。

当输入轴通过万向节驱动转子绕定子作行星回转时，定子与转子就连续啮合形成密封腔，这些密封腔容积不变地作匀速轴向运动，输入介质从吸入端流经定子-转子输送至压出端，输入密封腔的介质流过定子而不被搅动和破坏。因此，可以输送含有坚硬磨损性杂质及固体颗粒的介质和粘稠的液体。

Screw pumps are internal meshing enclosed screw pumps, belonging to the rotor-type positive displacement pumps. The main working parts consist of a stator with a double-headed helical cavity and a single-headed helical screw (rotor) meshing within the stator hole.

When the input shaft drives the rotor to perform planetary rotation around the stator via a universal joint, the stator and rotor continuously mesh to form sealed chambers. These sealed chambers move axially at a constant speed, transporting the input medium from the suction end through the stator-rotor to the discharge end, without stirring or damaging the medium in the sealed chambers. Therefore, it can transport media containing hard, abrasive impurities and solid particles, as well as viscous liquids.

技术优势 Technical Advantages:

输送5高介质

- 输送高浓度介质，含固量可达75%
- 输送高粘度介质，粘度高度100万里泊
- 输送高腐蚀性介质
- 输送高磨损性介质
- 输送高扬程要求的介质

- Transporting high-concentration media with solid content up to 75%
- Transporting high-viscosity media with viscosity up to 1,000,000 cP
- Transporting highly corrosive media
- Transporting highly abrasive media
- Transporting media with high lift requirements

4大机械特性

- 低噪音，无振动，65dB以下
- 容积效率可达85%以上
- 对纤维没有切断、剪切、压溃和无湍流脉动现象，溶解度不会变化
- 节省能源

Four Key Mechanical Characteristics:

- Low noise, vibration-free, below 65 dB
- Volumetric efficiency exceeding 85%
- No cutting, shearing, crushing of fibers, and no turbulence or pulsation, maintaining solubility
- Energy-saving

3大能力

- 有自吸能力，吸上高度可达8.5米
- 有混输能力，可实现气、液、固体的多相输送
- 有计量能力，流量和转速成正比，可做计量泵，精度达到1%

Three Key Capabilities:

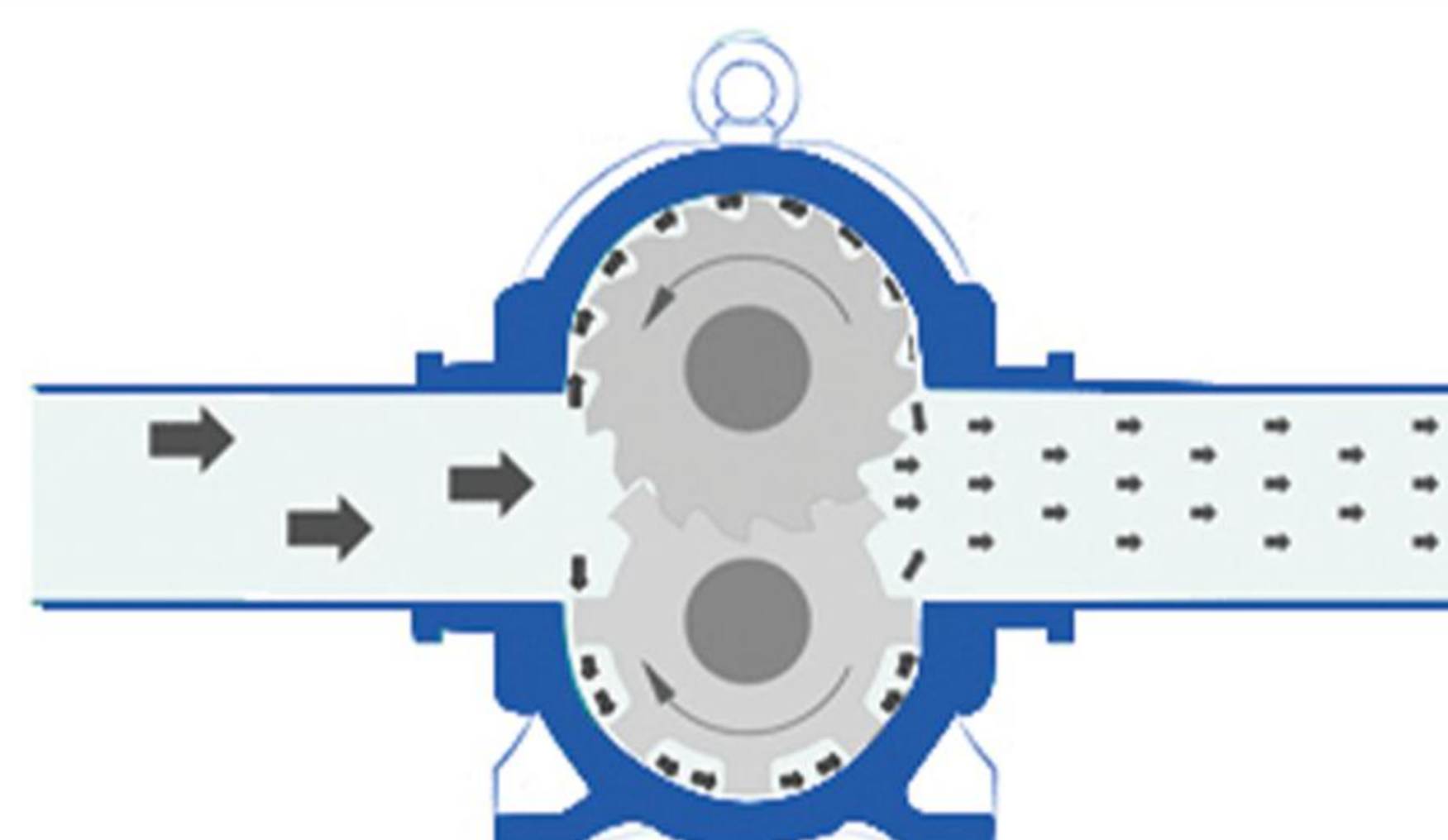
- Self-priming capability with a suction height up to 8.5 meters
- Mixed transport capability for multi-phase transport of gas, liquid, and solid
- Metering capability with flow rate proportional to speed, can be used as a metering pump with an accuracy of 1%

- 流量从1~300m³/h
- 出口压力根据泵型，最大可达48bar
- 可输送粘度范围为1~1,000,000cps的介质
- Flow rate from 1 to 300 m³/h
- Maximum outlet pressure up to 48 bar depending on pump type
- Suitable for media with viscosities ranging from 1 to 1,000,000 cps



切割技术

Cutting technology



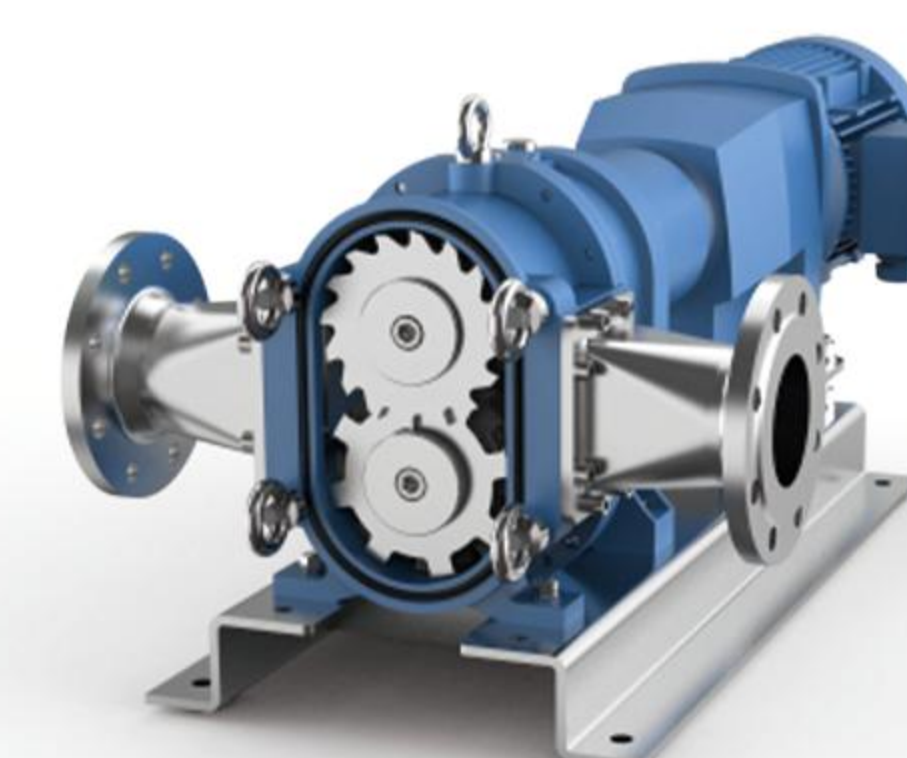
帕普生已在转子泵、切割机、破碎机领域进行了十几年的研究和生产，销售和服务。同时不断累积技术经验并在国内外进行验证和完善，以最新的产品系列满足各行业的需求。帕普生切割破碎技术产品是转子泵输送过程中的理想工艺辅助设备。

帕普生的切割破碎产品根据工艺要求，可以直接连接在帕普生的转子泵管道上，切碎介质中的大颗粒硬物、纤维、颗粒、毛发等杂物，确保大块固体被粉碎至泵及管道可以承受的输送尺寸范围内。并有效将金属、石块等硬物沉降，防止管路堵塞、缠绕损坏后续设备。

Pumpseen has been engaged in the research, production, sales, and service of rotary pumps, cutters, and shredders for over a decade. Continuously accumulating technical experience and verifying and improving it domestically and internationally, Papusen meets the needs of various industries with the latest product series. Pumpseen's cutting and shredding products are ideal auxiliary equipment in the rotary pump transport process.

Pumpseen's cutting and shredding products can be directly connected to Papusen's rotary pump pipelines as required by the process, shredding large hard particles, fibers, granules, hair, and other debris in the medium. This ensures that large solids are crushed to sizes within the pump and pipeline's transportable range. It effectively settles metal, stones, and other hard objects, preventing pipeline blockages and damage to subsequent equipment.

双轴式切割机



- 双轴粉碎
- 多种产品规格
- 流量最大达320m³/h
- 结构紧凑，占地空间小
- 不同的刀片组合决定了不同的粉碎程度

- Dual-shaft shredding
- Various product specifications
- Maximum flow rate of 320 m³/h,
- compact structure, small footprint
- Different blade combinations determine different shredding levels

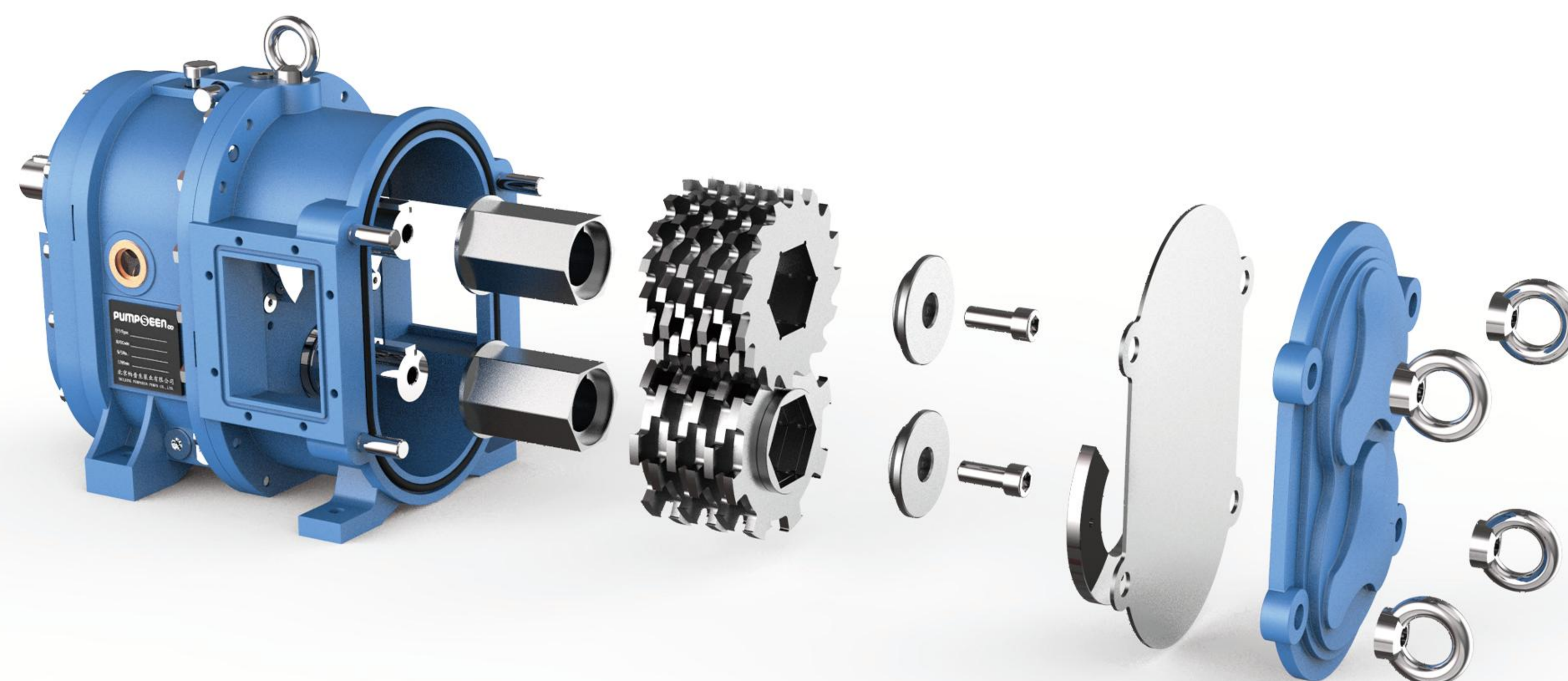
刀盘式切割机



- 多孔切盘型式
- 重物收集箱
- 流量最大达680m³/h
- 不同的切盘及转速决定了不同的粉碎程度
- Multi-hole disc type
- Heavy object collection box
- Maximum flow rate of 680 m³/h
- Different discs and speeds determine different shredding levels

- 强力切割块状硬物
- 可靠、坚固、强大
- 结构紧凑，低占地空间
- MOS-在线维护，降低维护及停工时间
- 节能，内摩擦损耗低
- 粉碎效果易调节
- 长服务寿命
- 切割单元易更换
- 材质广泛
- 可逆运转
- 低生命周期成本
- Powerful shredding of hard blocks
- Reliable, sturdy, and strong
- Compact structure, small footprint
- MOS - online maintenance, reducing maintenance and downtime
- Energy-saving, low internal friction loss
- Adjustable shredding effect
- Long service life
- Easy-to-replace cutting units
- Wide range of materials
- Reversible operation
- Low lifecycle cost

- 长服务寿命
- 在线维护（MOS）
- 低生命周期成本
- 刀片调节通过在外部手动调整
- 结构紧凑，低占地空间
- 高度粉碎
- 高密封安全性得益于缓冲腔设计
- 管道式设计
- Long service life
- Online maintenance (MOS)
- Low lifecycle cost
- Blade adjustment through external manual adjustment
- Compact structure, small footprint
- High shredding efficiency
- High sealing safety due to buffer chamber design
- Pipeline design
- Driven by gear motor
- Usable disc on both sides
- Different disc selections for different shredding effects



餐厨垃圾

Kitchen waste



餐厨垃圾，又称泔水。由于我国各个地区的饮食习惯的不同，餐厨垃圾的组成与特点有所差异，但大致有以下几个特点：

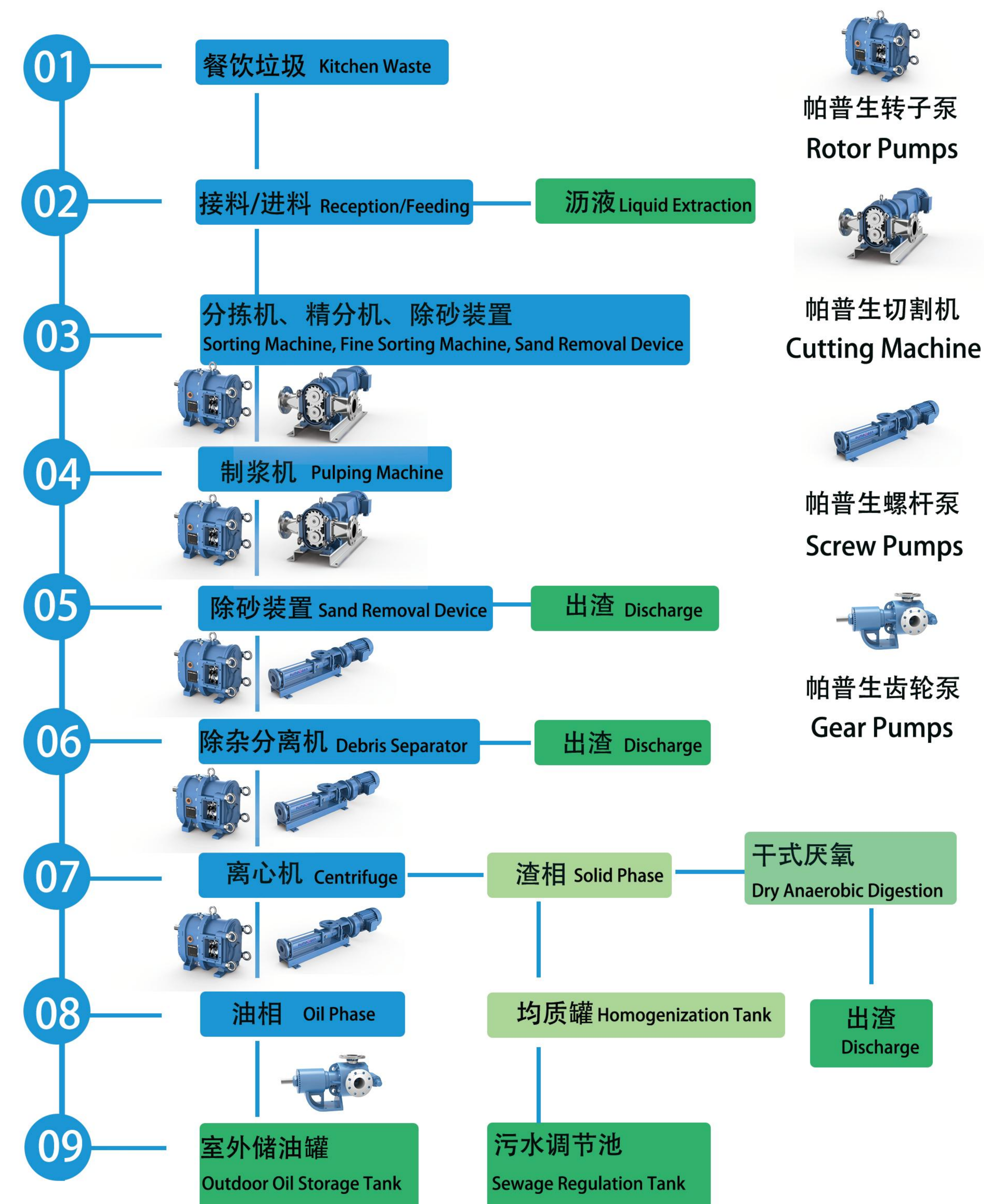
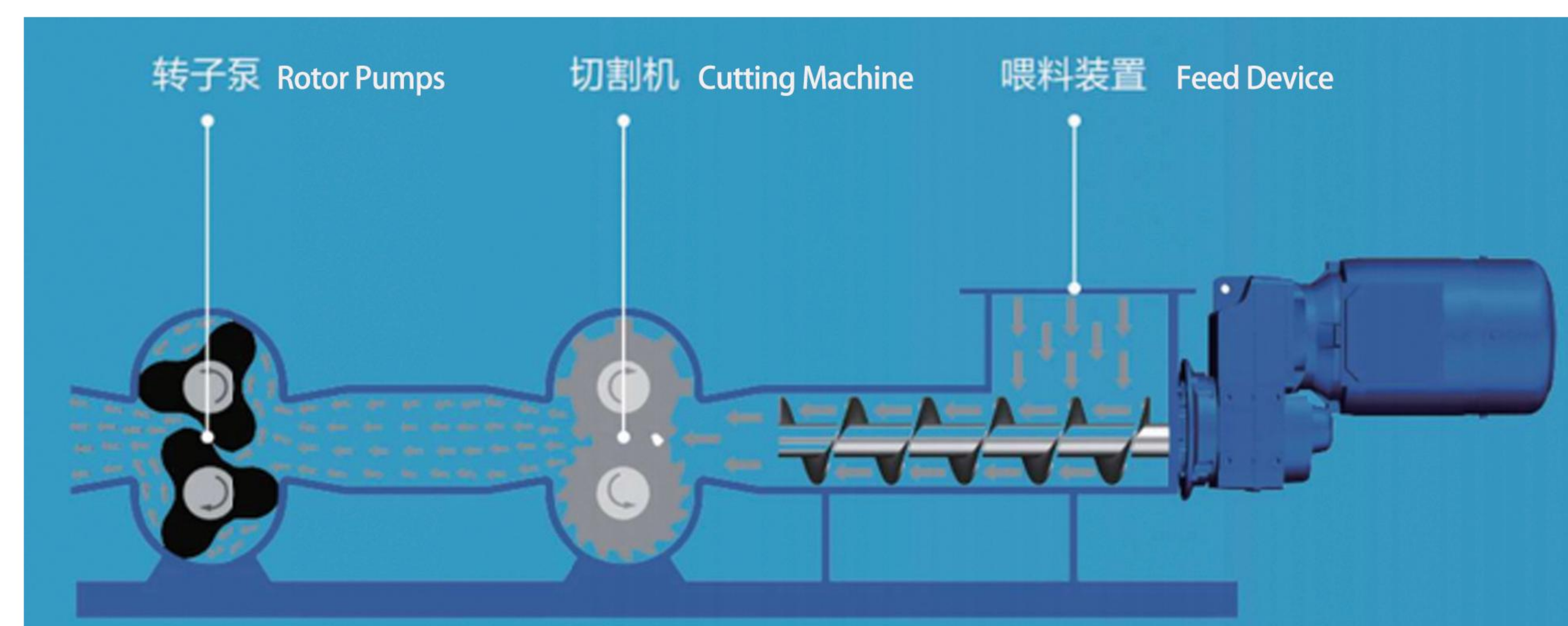
- ①含水率高；
- ②易腐烂变质；
- ③含有大量的有机物质；
- ④盐分含量高；
- ⑤存在病原菌、病原微生物等。

这些介质特性对食品安全的危害以及对环境卫生和生活垃圾终端处置设施的都有危害。也对输送处理设备耐磨性和材质选择都提出了高标准的要求。

Kitchen waste, also known as swill, varies in composition and characteristics across regions due to different dietary habits. However, it generally has the following characteristics:

- ① High moisture content;
- ② Easily decomposes and spoils;
- ③ Contains a large amount of organic matter;
- ④ High salt content;
- ⑤ Presence of pathogens and microorganisms.

These characteristics pose hazards to food safety, environmental hygiene, and end disposal facilities for domestic waste. They also impose high standards on the wear resistance and material selection of transportation and processing equipment.



应用案例
Application case

大丰餐厨垃圾处理项目 Dafeng Kitchen Waste Treatment Project

类型	型号	流量	压力	电机功率 (kw)	转速 (转/分钟)	介质
Type	Model	Flow Rate	Pressure	Motor Power (kW)	Speed (RPM)	Medium
转子泵	PSC10	10m3/h	1bar	3kw	380	餐厨垃圾浆料
转子泵	PSD36	20m3/h	1bar	4kw	202	餐厨垃圾浆料

西安蓝田餐厨垃圾项目 Xi'an Lantian Kitchen Waste Project

转子泵	PSF120	50m3/h	2bar	22kw	230	餐厨垃圾浆料
粉碎机	XSD55	50m3/h	-	7.5kw	120	餐厨垃圾浆料

盐城xx环境科技有限公司一期、二期项目 Yancheng Phase I and Phase II Projects

转子泵	PSF120	50m3/h	2bar	15kw	230	餐厨垃圾浆料
转子泵	PSF120	50m3/h	2bar	22kw	230	餐厨垃圾浆料
粉碎机	XSD55	50m3/h	-	7.5kw	120	餐厨垃圾浆料
粉碎机	XSD55	50m3/h	-	11kw	120	餐厨垃圾浆料

遵义/宝兴餐厨垃圾项目 Zunyi/Baoxing Kitchen Waste Projects

转子泵	PSC5	2m3/h	3bar	2.2kw	230	餐厨垃圾浆料
转子泵	PSD36	10m3/h	3bar	5.5kw	220	餐厨垃圾浆料
转子泵	PSD55	20m3/h	3bar	7.5kw	220	餐厨垃圾浆料
转子泵	PSF120	50m3/h	3bar	18.5kw	220	餐厨垃圾浆料

