

橡胶 | 转子泵

Rubber Rotor Pump

致力于提供全方位流体输送技术
Committed to Providing Comprehensive
Fluid Transportation Technology

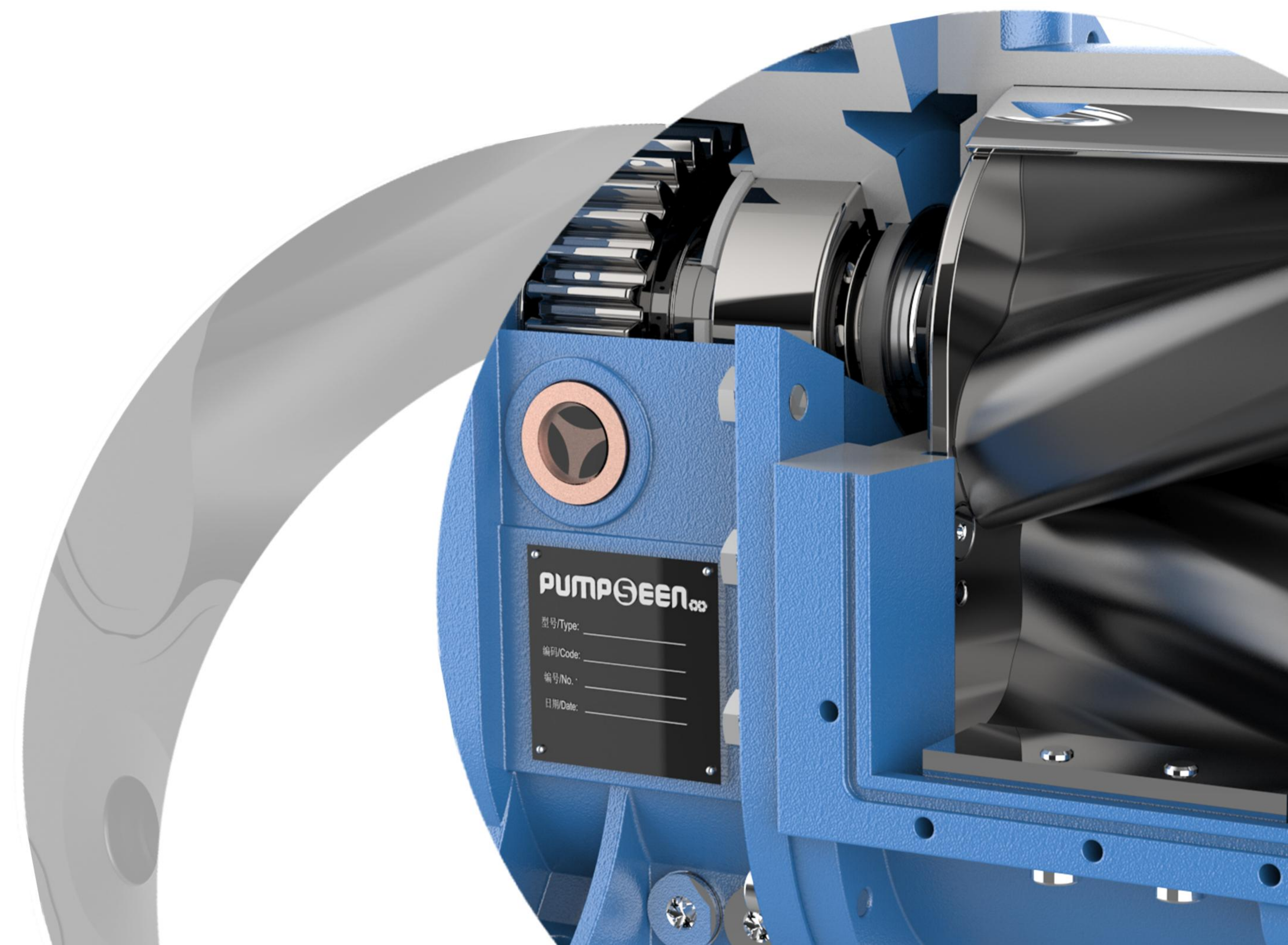
关注我们



帕普生泵业
PUMPSEEN PUMPS

联系电话 / 010-6240 5101
公司网址 / www.pumpseen.com
公司邮箱 / pumpseen@163.com

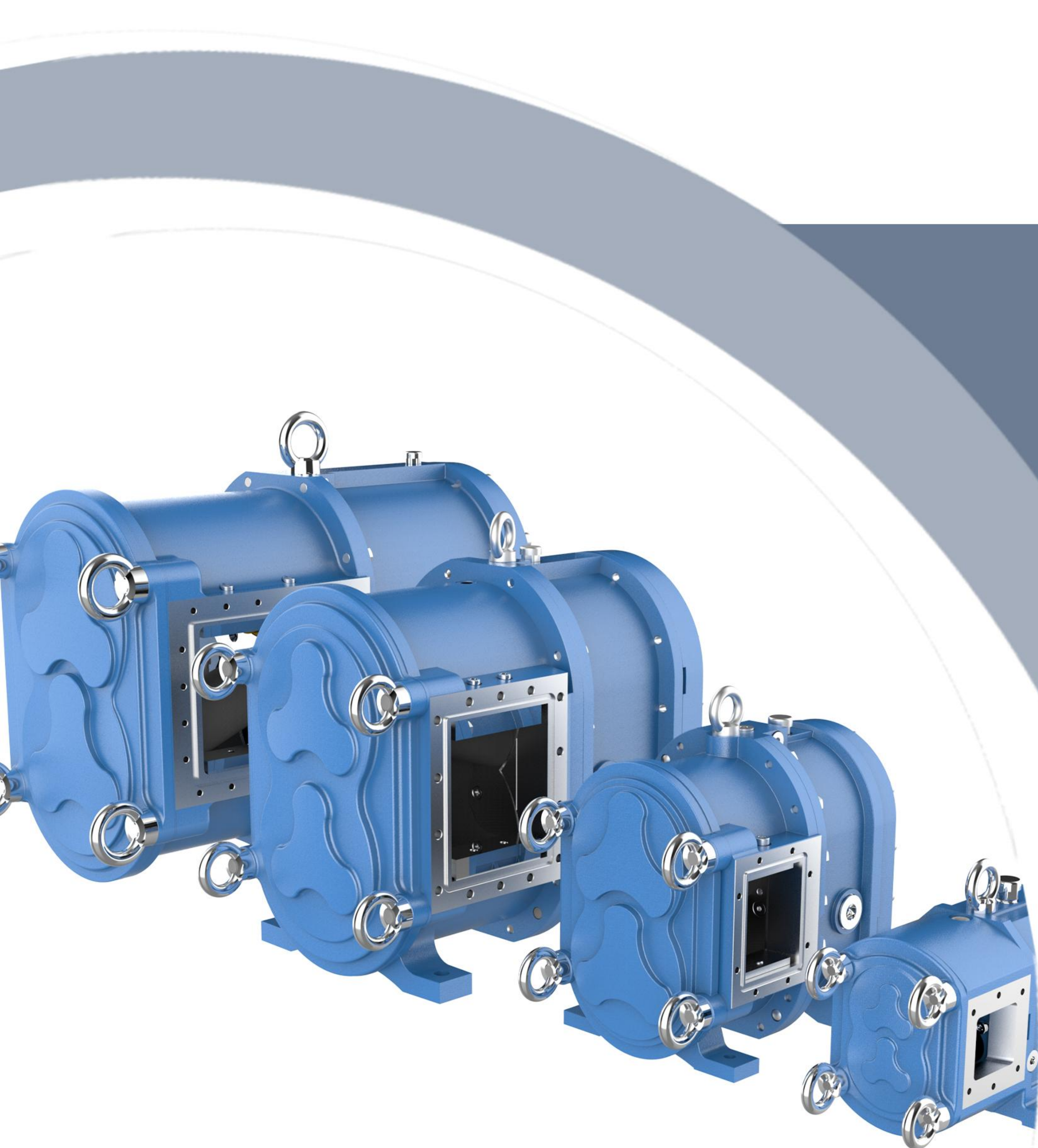
Contact Number: 010-6240 5101
Company Website: www.pumpseen.com
Company Email: pumpseen@163.com



橡胶转子泵

帕普生橡胶转子泵，由安装在两根平行轴上的一对转子与泵腔之间为无间隙设计，从而形成小的密封腔体，通过一对同步齿轮带动两个转子同步逆向转动，产生容积的连续位移，使得填充在腔体内的介质不断从一端推向另一端，实现流体介质的输送。转子采用橡胶、工程塑料等材质，适用于输送高含固率，高磨损，高粘度的介质，适用于多种行业介质输送。

Pumpseen rubber rotor pumps feature a pair of rotors installed on two parallel shafts, designed with zero clearance between the rotors and the pump chamber, forming small sealed cavities. These rotors are driven by a pair of timing gears to rotate synchronously in opposite directions, resulting in continuous volumetric displacement and consistent media transportation from one end to the other. The rotors are made of rubber or engineering plastics, suitable for transporting high solid content, high wear, and high viscosity media across various industries.



- 结构紧凑，占地面积小；
 - 低剪切、低脉动，可输送对剪切敏感的介质；
 - 宽边转子设计，多种材质、形式转子可选，满足不同的工艺要求；
 - 自吸能力强，启动无需灌液；
 - 结构对称，可正反双向运转，只需改变驱动旋转方向，即可改变输送方向；
 - 可内衬陶瓷/不锈钢衬板，耐磨损、耐腐蚀、不与介质发生反应，延长使用寿命；
 - 维修便捷，无需拆卸管路，减少停机维护时间及人力成本；
 - 多样化法兰连接形式、灵活的安装形式及管道连接形式；
- Compact structure, small footprint
 - Low shear, low pulsation, suitable for shear-sensitive media
 - Wide-edge rotor design with various materials and forms to meet different process requirements
 - Strong self-priming ability, no need for liquid filling to start
 - Symmetrical structure, capable of bi-directional operation by changing the drive rotation direction
 - Option for ceramic/stainless steel liners, wear-resistant, corrosion-resistant, non-reactive with media, extended lifespan
 - Convenient maintenance, no need to dismantle pipelines, reducing downtime and labor costs
 - Diverse flange connection forms, flexible installation, and pipeline connection

01 流量范围

Flow Rate Range

1-1000m³/h

02 压力范围

Pressure Range

0-12bar

03 粒径范围

Particle Size Range

可输送固体颗粒直径达90mm
Can transport solid particles up to 90 mm in diameter

04 粘度范围

Viscosity Range

1-1000000cps

05 温度范围

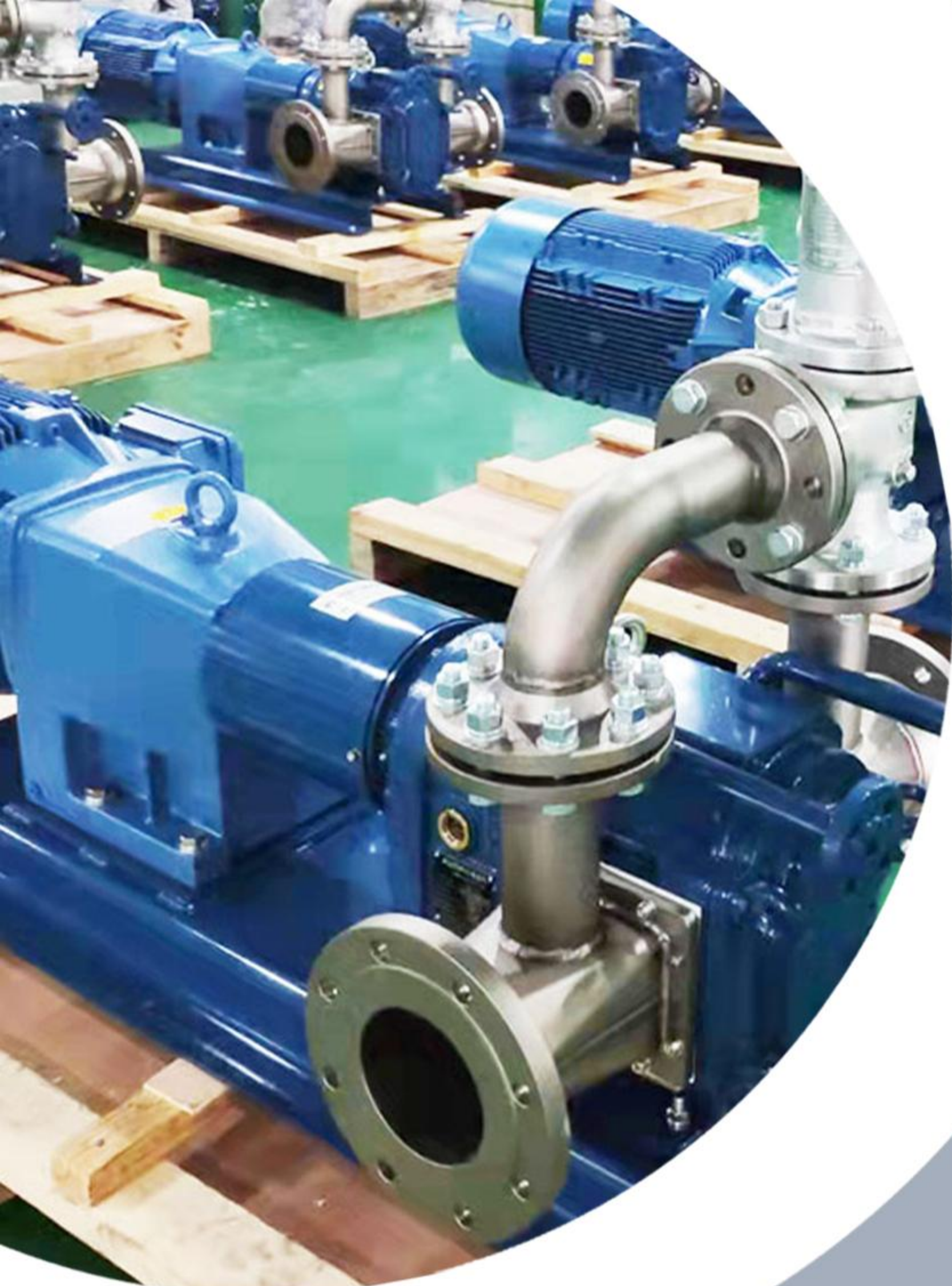
Temperature Range

0-180℃

06 自吸能力

Self-Priming Capability

吸程可达9m
Suction lift up to 9 m



产品结构 Product Structure

- 1.快启式泵盖：泵盖设计由四个螺母固定，方便日常的快速开启以检查泵腔内过流部件状况，打开快启泵盖，即可对泵腔内主要过流部件实现快速维修，无需拆卸管线
- 2.衬板：径向衬板、轴向衬板可选择不锈钢、陶瓷等材质，减少泵体及备件的磨损，延长寿命
- 3.转子：转子形式与材质多样化，可根据不同的工艺工况选择相应的转子
- 4.机械密封：多种机械密封形式和材料可选，单机械密封、双端面机械密封、填料密封、多唇密封、帕普生新型自润滑干运行机械密封，并配合多种机械密封冲洗方案，保证设备使用的合理性
- 5.泵壳：铸铁、不锈钢多种材质可选，CFD流动性优化设计，防堵塞、防缠绕设计
- 6.轴承与同步齿轮：同步齿轮装在充满润滑油的齿轮腔内，与一对自动调心滚子轴承及一对双列圆柱滚子轴承共同组成传动系统。同步齿轮执行AGMA9级加工精度，材质采用优质低碳合金钢渗碳淬火，确保强度、精度

1.Quick-Release Pump Cover: Designed with four nuts for quick daily opening to inspect overcurrent components in the pump chamber. The quick-release pump cover allows for fast maintenance of main overcurrent components without dismantling pipelines.

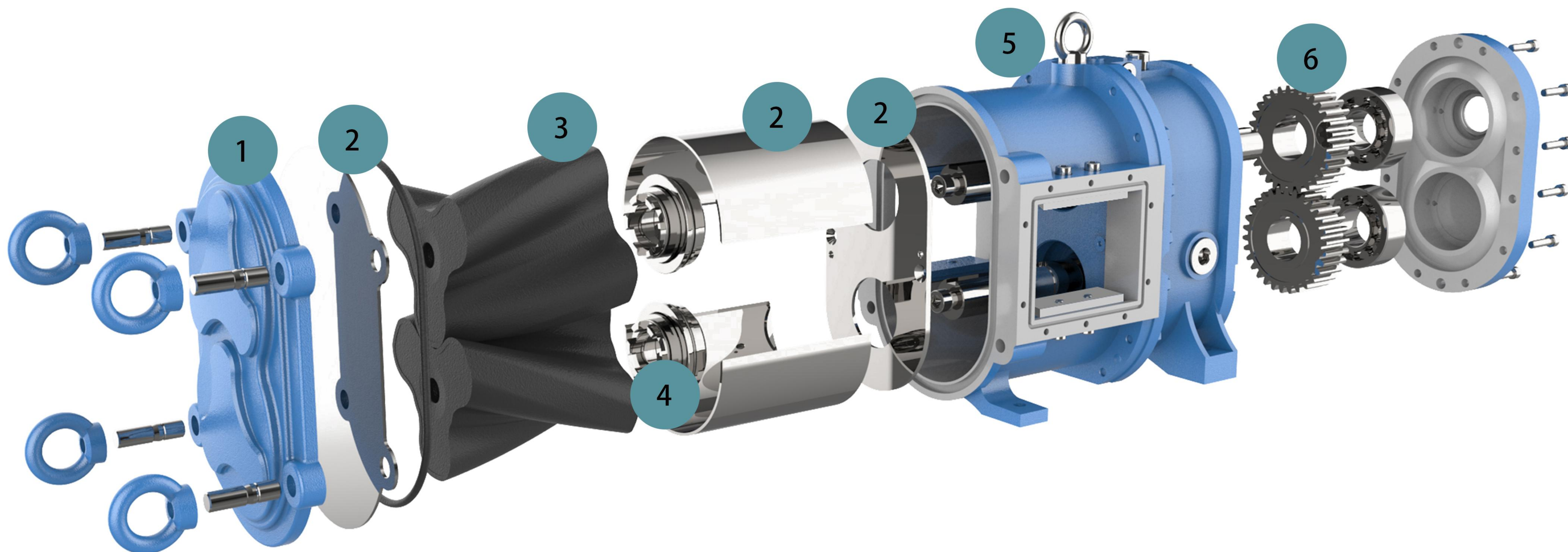
2.Liners: Radial and axial liners available in stainless steel, ceramic, and other materials to reduce wear on the pump body and spare parts, extending lifespan.

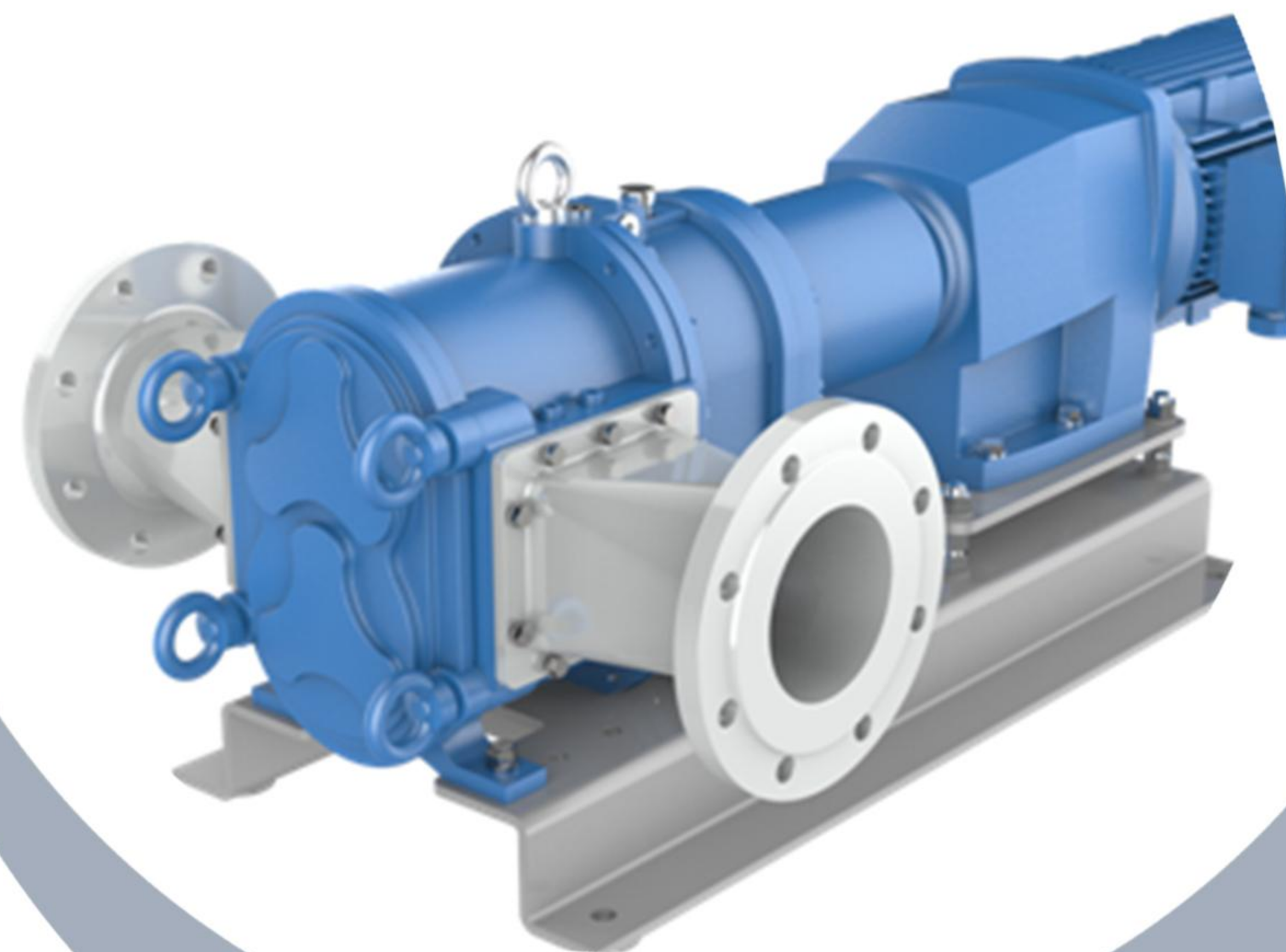
3.Rotor: Various forms and materials of rotors to choose from based on different process conditions.

4.Mechanical Seal: Multiple forms and materials available, including single mechanical seal, double mechanical seal, packing seal, multi-lip seal, and Papusen's new self-lubricating dry running mechanical seal. Various flushing schemes ensure the rationality of equipment use.

5.Pump Housing: Available in cast iron, stainless steel, and other materials, optimized with CFD flow design to prevent clogging and entanglement.

6.Bearings and Timing Gear: Installed in a lubricating oil-filled gear chamber, forming a transmission system with self-aligning roller bearings and double-row cylindrical roller bearings. Precision to AGMA grade 9, made from high-quality low-carbon alloy steel, carburized and quenched for strength and accuracy.





转子材质

Rotor Materials

1: NBR——丁腈橡胶：耐磨损，耐油性，耐温 80 °C

2: EPDM——三元乙丙橡胶：耐水，耐酸碱，耐温 130 °C

3: FPM——氟橡胶：耐油，耐酸碱，耐腐蚀，耐温 180 °C

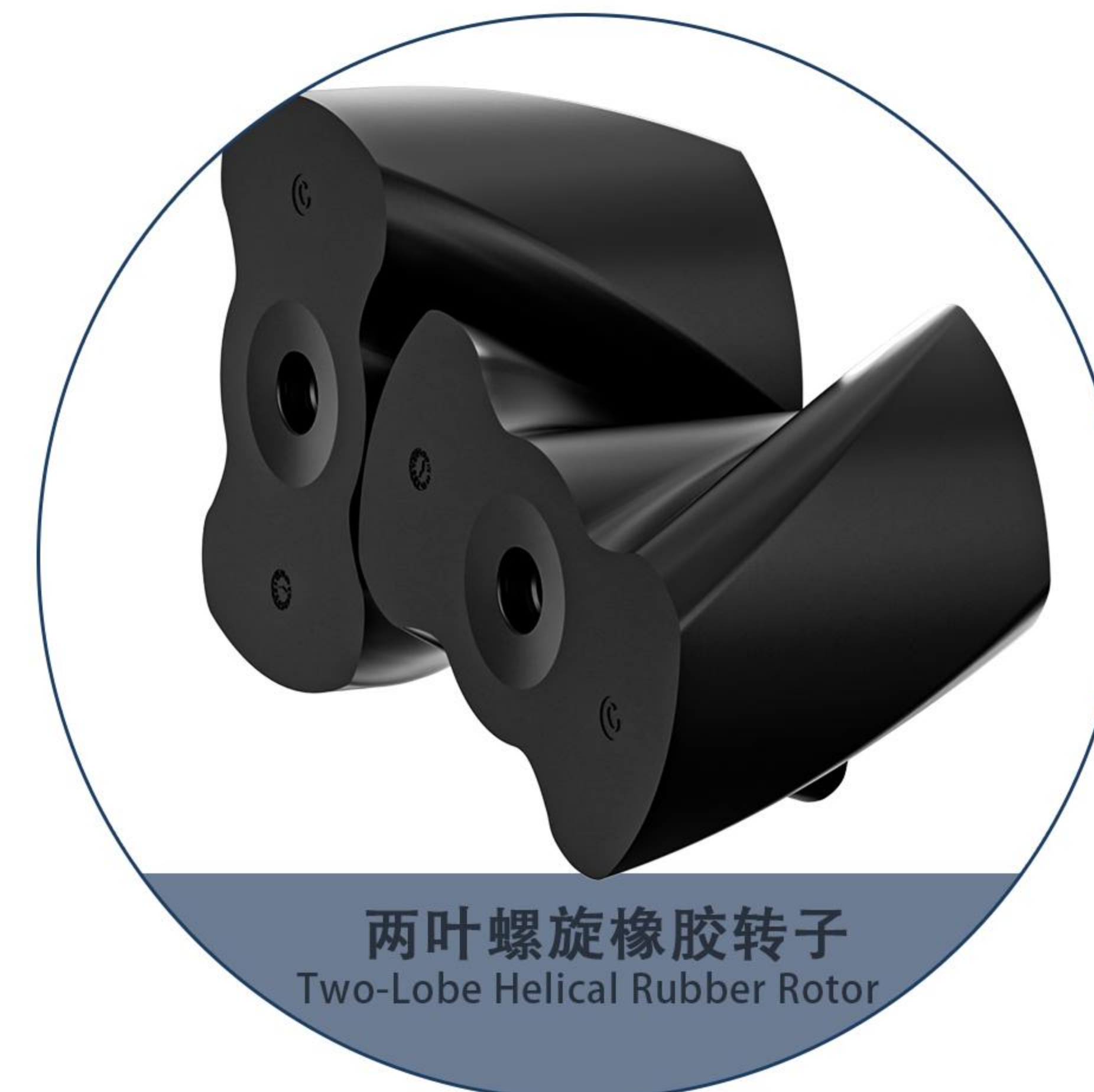
4: PTFE——聚四氟乙烯：特氟龙，耐化学性，耐温 200 °C

1.NBR (Nitrile Rubber): Wear-resistant, oil-resistant, withstands temperatures up to 80°C

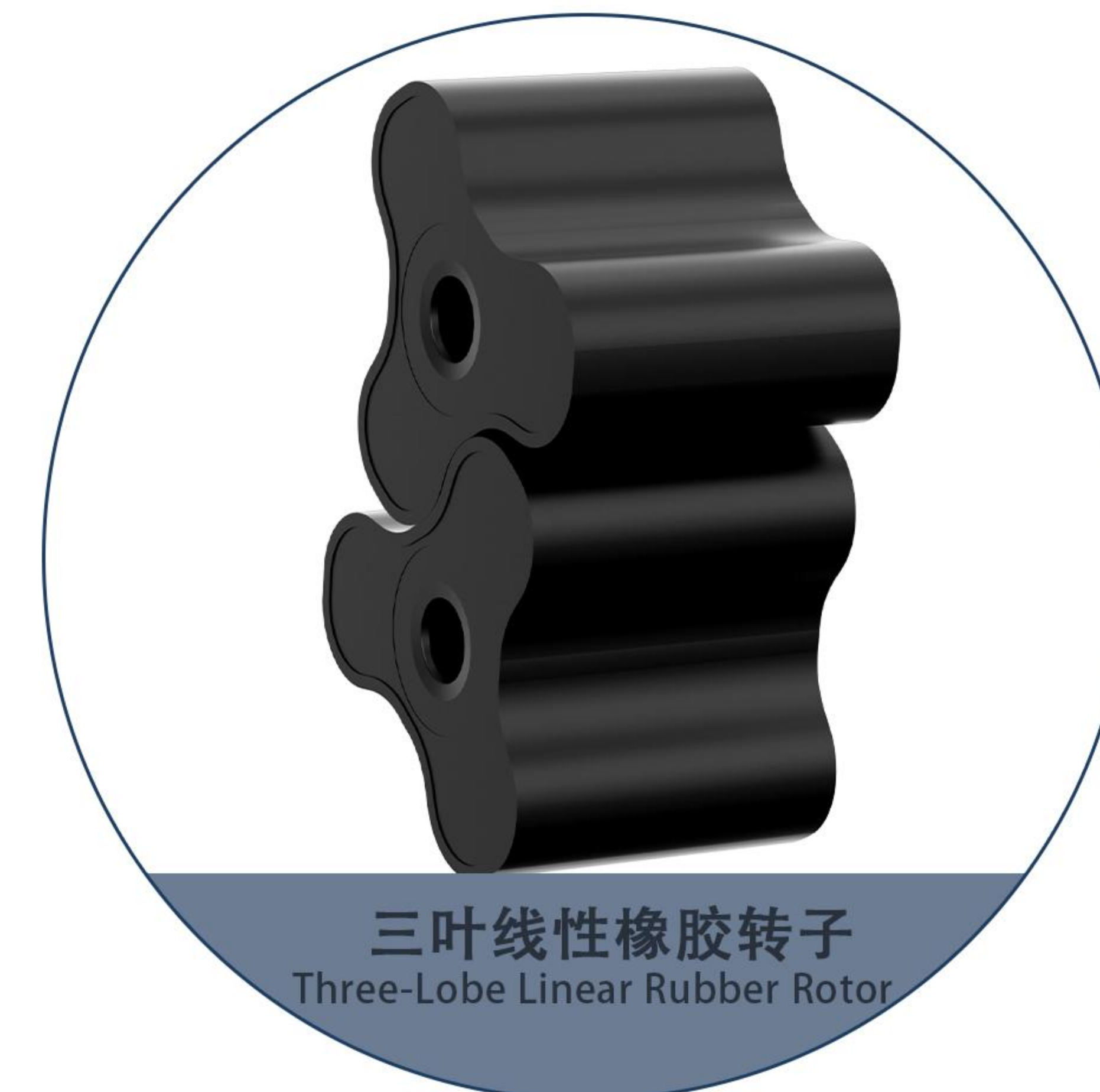
2.EPDM (Ethylene Propylene Diene Monomer): Water-resistant, acid and alkali-resistant, withstands temperatures up to 130°C

3.FPM (Fluorocarbon Rubber): Oil-resistant, acid and alkali-resistant, corrosion-resistant, withstands temperatures up to 180°C

4.PTFE (Polytetrafluoroethylene): Chemically resistant, withstands temperatures up to 200°C



两叶螺旋橡胶转子
Two-Lobe Helical Rubber Rotor



三叶线性橡胶转子
Three-Lobe Linear Rubber Rotor



三叶螺旋橡胶转子
Three-Lobe Helical Rubber Rotor



三叶螺旋可更换转子尖转子
Three-Lobe Helical Rotor with Replaceable Tips

转子形式 Rotor Forms

- 两叶线性、两叶螺旋、三叶线性、三叶螺旋、三叶线性可更换转子尖、三叶螺旋可更换转子尖等形式可选择；
- 宽边转子技术：增加密封线宽度，提高耐磨损性能，延长转子更换周期；
- 优化螺旋技术：改善转子曲线，提高容积效率，增强泵运行稳定性；

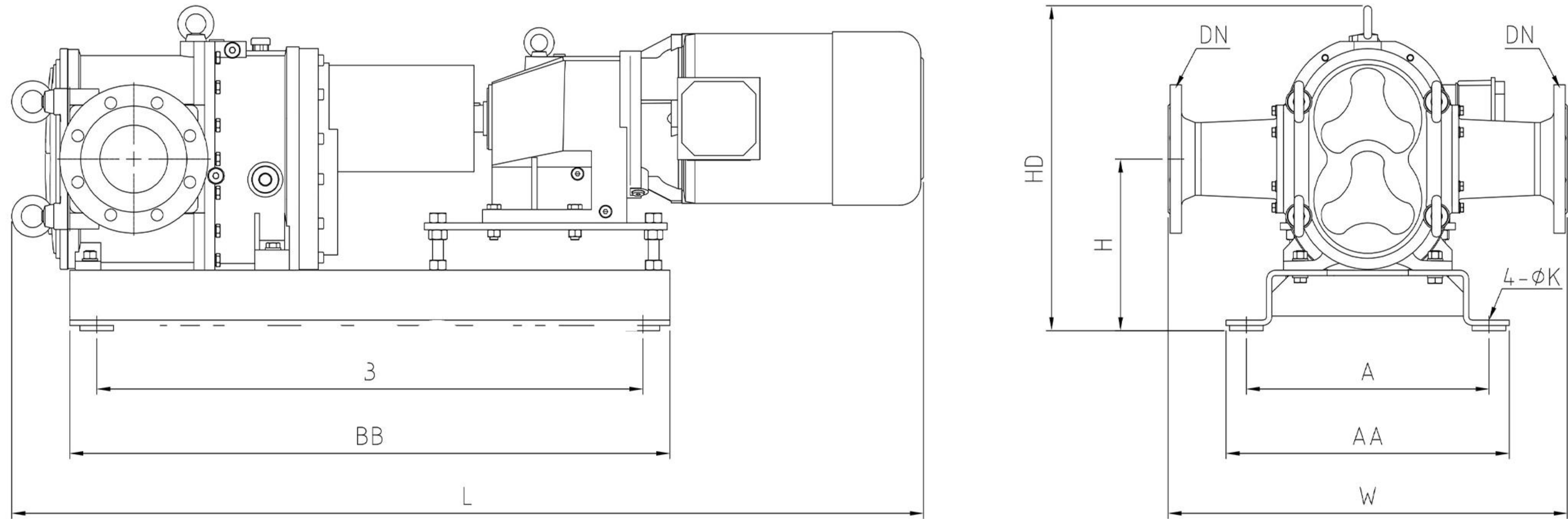
- Two-lobe linear, two-lobe helical, three-lobe linear, three-lobe helical, three-lobe linear with replaceable tips, three-lobe helical with replaceable tips, and more
- Wide-Edge Rotor Technology: Increases sealing line width, enhancing wear resistance and extending rotor replacement cycle
- Optimized Helix Technology: Improves rotor curve, increasing volumetric efficiency and enhancing pump stability



参数配置 —
CONFIGURATION

型号	最小转速 [rpm]	最大转速 [rpm]	排量 [L/rpm]	最小流量 [m3/h]	最大流量 [m3/h]	最大压力 [bar]	最大颗粒 [mm]	最大温度 [°C]	橡胶转子启动扭矩 [Nm]	金属转子启动扭矩 [N.m]	最大扭矩 [N.m]
Model	Min Speed [rpm]	Max Speed [rpm]	Displacement [L/rpm]	Min flow [m3/h]	Max flow [m3/h]	Max Pressure [bar]	Passing capacity [mm]	Max. temperature [°C]	Starting torque of Rubber rotor [Nm]	Starting torque of Metal rotor [N.m]	Max. torque [N.m]
PSC5	1	800	0.25	0.03	12	12	25	200	23 - 30	10	380
PSC10	1	800	0.5	0.04	20	8	25	200	25 - 33	11	380
PSC15	1	800	0.75	0.05	30	4	25	200	36 - 47	16	380
PSD18	1	700	0.9	0.05	35	12	40	200	53 - 70	23	900
PSD36	1	700	1.8	0.11	75	8	40	200	61 - 80	27	900
PSD55	1	700	2.7	0.16	115	6	40	200	69 - 90	30	900
PSD75	1	700	3.6	0.22	150	4	40	200	102 - 134	45	900
PSF120	1	600	5.7	0.34	205	12	75	200	153 - 201	67	2500
PSF180	1	600	8.6	0.52	310	8	75	200	166 - 217	72	2500
PSF240	1	600	11.4	0.68	410	4	75	200	178 - 234	78	2500
PSH320	1	600	15.5	0.93	560	6	80	200	178 - 234	78	2800
PSH650	1	600	30.9	1.9	1100	2	80	200	204 - 267	89	2800

尺寸参数 Size Parameters



型号	功率	A	B	H	W	K	DN	AA	BB	HD	L	重量
	[kW]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[kg]
PSC5	1.5	260	455	175	360	14	40	290	535	328	780	81
PSC10	2.2	260	455	175	400	14	50	290	535	328	945	99
PSC15	3	260	455	175	440	14	65	290	535	328	985	113
PSD18	3	360	810	255	550	18	80	420	890	472	1150	180
PSD36	4	360	810	255	530	18	100	420	890	472	1176	206
PSD55	5.5	360	810	255	570	18	125	420	890	472	1233	241
PSD75	7.5	360	810	255	630	18	150	420	890	472	1295	275
PSE80	11	530	1135	350	615	18	150	590	1225	630	1634	450
PSF120	15	530	1135	350	700	18	150	590	1225	661	1702	480
PSF180	18.5	530	1135	350	650	18	200	590	1225	661	1839	560
PSF240	22	530	1135	350	750	18	250	590	1225	661	1839	615
PSH320	30	540	1235	396	860	22	300	600	1335	752	2190	995
PSH650	37	540	1750	396	1200	22	350	600	1850	752	2548	1300

应用 - 案例

Application Cases



污水处理厂旋流沉砂池
污水处理厂滤布滤池反冲洗泵
污水处理厂浓缩池污泥提升泵
污水处理厂脱水机房进料泵
初沉池
二沉池
.....

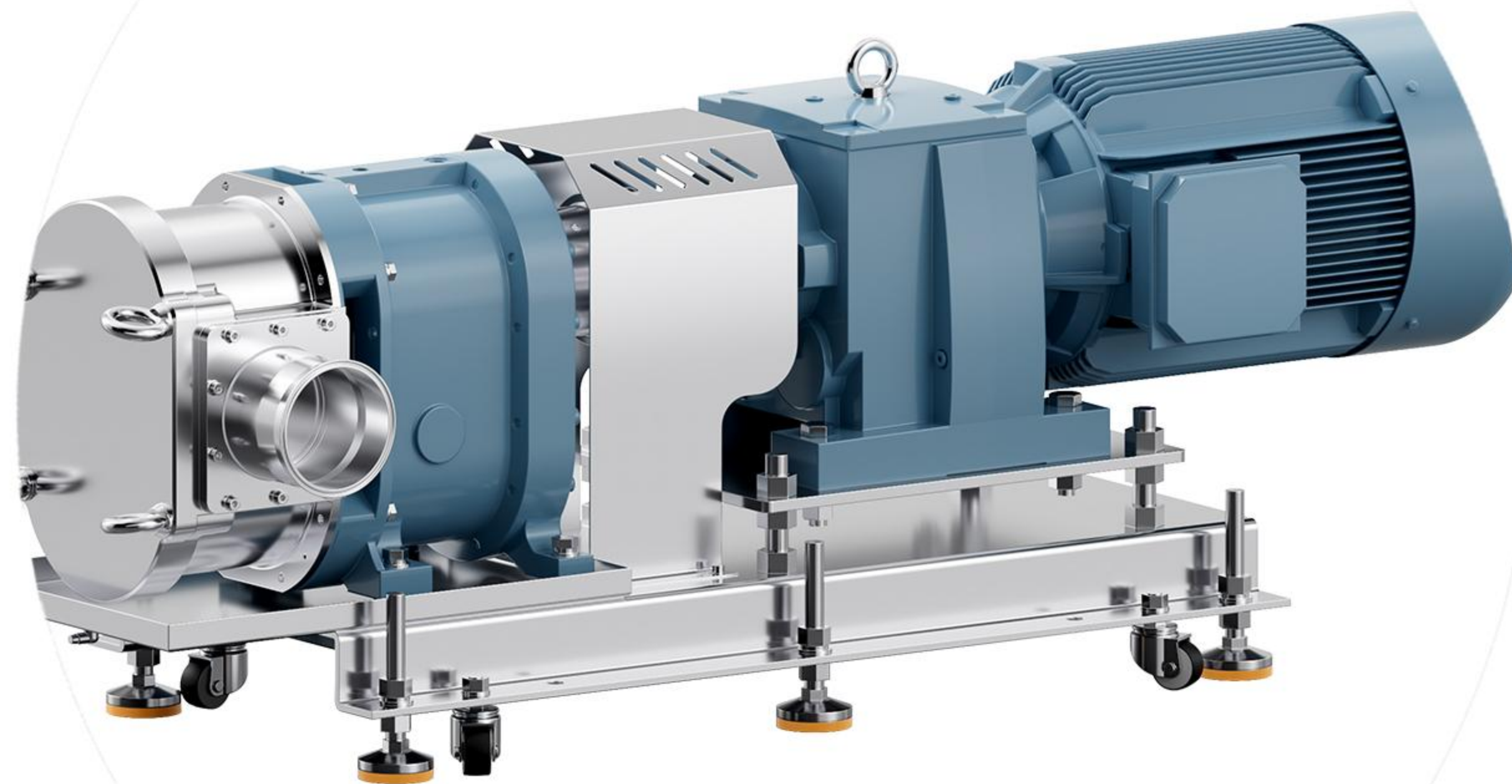
Swirl Grit Chambers
Filter Cloth Backwash Pumps
Sludge Lift Pumps for Concentration Tanks
Feeding Pumps for Dewatering Rooms
Primary Sedimentation Tanks
Secondary Sedimentation Tanks
.....

输送介质：

污水、工业废水、污泥、含沙污水、石灰浆、软性沉淀物等、沼液、沼气原料、秸秆粪便等

Media Transported:

Sewage, industrial wastewater, sludge, sand-laden sewage, lime slurry, soft sediment, etc. Biogas slurry, biogas raw materials, straw, manure, etc.



锂电池正负极材料输送
锂电池浆料输送
锂电池辅料输送
锂电回收阶段输送
钠电池浆料输送
.....

Transport of positive and negative electrode materials
Transport of lithium battery slurry
Transport of auxiliary lithium battery materials
Transport during lithium battery recycling stages
Transport of sodium battery slurry

输送介质：

电池浆料：正极浆料，负极浆料，磷酸铁浆料等
电池辅料：石墨烯，CNT，SBR，CMC，PVDF等

Media Transported:

Battery Slurries: Positive electrode slurry, negative electrode slurry, lithium iron phosphate slurry, etc.

Battery Auxiliaries: Graphene, CNT, SBR, CMC, PVDF, etc.