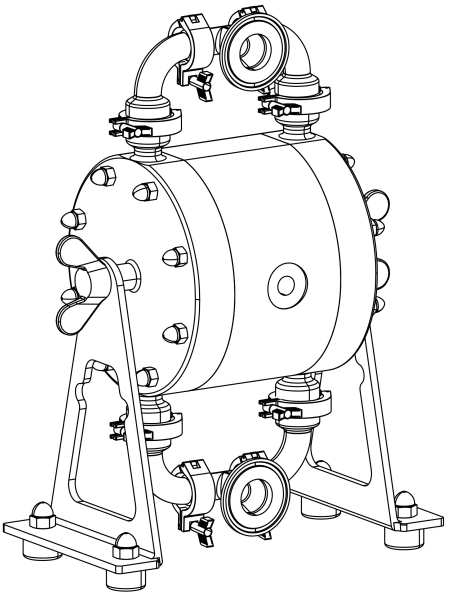
skylink

Specialist in Fluid Transfer
致力于流体输送

SKY-SK-SE-03-2016



INSTRUCTIONS
操作指南

This manual contains warnings and caution.
本手册包含警告和注意事项
READ AND RETAIN FOR REFERENCE
阅读和保留以供参考

F20

Operation and Maintenance Manual
操作维护手册

CE

Diaphragm Pump隔膜泵

⚠ IMPORTANT重要

- Read the safety warnings and instructions in this manual before pump installation and start-up. Failure to comply with the recommendations stated in this manual could damage the pump and void factory warranty.
  在泵安装和启动之前，请阅读本手册中的安全警告和说明。不遵守本手册中的建议可能损坏泵和保修无效。

- When the pump is used for materials that tend to settle out or solidify, the pump should be flushed after each use to prevent damage. In freezing temperatures the pump should be completely drained between uses.
  当泵用于易沉淀或固化的材料时，每次使用后应冲洗泵以防止损坏。在冰冻温度下，泵应在使用后完全排空。

⚠ CAUTION注意

- Before pump operation, inspect all fasteners for loosening caused by gasket creep. Retighten loose fasteners to prevent leakage. Follow recommended torques stated in this manual.
  在泵运行前，检查所有紧固件是否因垫片蠕变而松动。重新拧紧松动的紧固件以防止泄漏。请遵循本手册规定的推荐扭矩。

- Nonmetallic pumps and plastic components are not UV stabilized. Ultraviolet radiation can damage these parts and negatively affect material properties. Do not expose to UV light for extended periods of time.
  非金属泵和塑料部件不是紫外线稳定的。紫外线辐射会损坏这些部件，并会对材料性能产生负面影响。不要长时间暴露在紫外光下。

- Pump not designed, tested or certifed to be powered by compressed natural gas. Powering the pump with natural gas will void the warranty.
  泵未经设计、测试或证明可由压缩天然气驱动。如用天然气作为气源驱动泵会使保修无效。

⚠ WARNING警告

- When used for toxic or aggressive fluids, the pump should always be lushed clean prior to disassembly.
  当用于有毒或腐蚀性流体时，泵在拆卸前应冲洗干净。

- Before maintenance or repair, shut off the compressed air line, bleed the pressure, and disconnect the air line from the pump. Be certain that approved eye protection and protective clothing are worn at all times. Failure to follow these recommendations may result in serious injury or death.
  在维护或修理之前，关闭压缩空气管路，释放出压力，并将空气管路与泵断开。一定要在所有时间佩戴被认可的眼睛保护和防护服。不遵守这些建议可能导致严重的伤害或死亡。

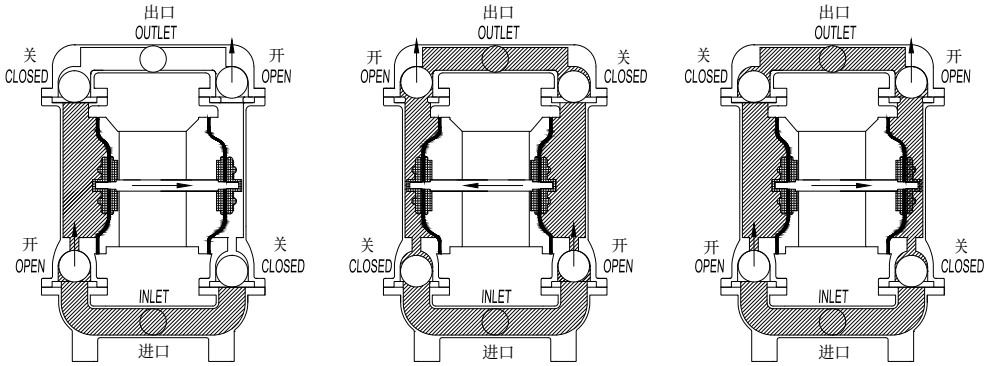
- Airborne particles and loud noise hazards. Wear eye and ear protection.
  大气颗粒物和大噪声危害，戴眼耳防护。

- In the event of diaphragm rupture, pumped material may enter the air end of the pump, and be discharged into the atmosphere. If pumping a product that is hazardous or toxic, the air exhaust must be piped to an appropriate area for safe containment.
  在隔膜破裂的情况下，泵送材料可能进入泵的空气末端，并被排放到大气中。如果泵送危险或有毒的产品，则必须将排气管送入适当区域以确保安全。

- Take action to prevent static sparking. Fire or explosion can result, especially when handling flammable liquids. The pump, piping, valves, containers and other miscellaneous equipment must be properly grounded.
  采取必要措施防止静电火花可能导致的火灾或爆炸，特别是在处理易燃液体。泵、管道、阀门、容器等杂项设备必须正确接地。

- This pump is pressurized internally with air pressure during operation. Make certain that all fasteners are in good condition and are reinstalled properly during reassembly.
  泵运行期间内部被空气压力加压。请确保所有紧固件处于良好状态并在重新装配过程中正确安装。

The Skylink diaphragm pump is an air-operated, positive displacement, self-priming pump. These drawings show the low pattern through the pump upon its initial stroke. It is assumed that the pump has no fluid in it prior to its initial stroke.
斯凯力隔膜泵是一种气动、正排量、自吸泵。这些图显示了泵在初始冲程时的流型。假设泵在其初始行程之前没有流体。



Skylink AODD pumps adopt compressed air for power source and depend on diaphragms which move left and right to reach the volume sealed working chamber to achieve loading and discharging.
斯凯力气动隔膜泵采用压缩空气作为动力源，依靠向左和向右移动的膜片改变密封的腔体容积来实现进料和出料。

AODD pump is structured by suction port,discharge port, medium chamber and air chamber, air chamber is structured by main air valve, pilot valve, thimble on left diaphragm chamber and right diaphragm chamber,medium chamber is structured by left medium, right medium and check valve. Check valve are set on the top or bottom,left and right medium chambers are connected by suction port and discharge port.
气动隔膜泵由吸入口、排放口、介质室和空气室构成，空气室由主气阀、导向阀、左膜片室和右膜片室的顶针构成，介质室为由左介质、右介质和止回阀构成。止回阀设置在顶部或底部，左、右中腔室通过进料口和出料口连接。

When AODD pump is working,left and right diaphragms are moving by compressed air, and the air valve has lubricating demand, so clear and dry air can improve the performance of AODD pump.
隔膜泵工作时，左右膜片均通过压缩空气运动，气阀有润滑要求，干燥的空气可提高气动隔膜泵的性能。

Compressed air comes into air chamber across air inlet port,after the regulation of pilot valve,compressed air come into left diaphragm chamber and drive diaphragm move on the left ,the result is that the volume of left medium chamber decreases,the liquid is extruded.
压缩空气通过进气口进入气室，在导向阀调节后，压缩空气进入左侧隔膜室，驱动膜片向左移动，结果是左腔容积减小，液体被挤出。

Because the right diaphragm and the left diaphragm are connected by an axle,the right diaphragm moves to the left side,the right chamber volume increases,the liquid is inhaled. when the right diaphragm plate touches the right thimble, the right thimble can change the direction of compressed air by pilot valve,air come into the right chamber,the left and right diaphragm move to the right side,the left medium chamber volume increases,liquid is in inhaled,the right chamber volume decreases,liquid is excluded. When the left diaphragm plate touches the left thimble,the air comes into left diaphragm chamber through pilot valve. The actions above are repeated complete the fluid continuous transporting on by AODD pump.
由于右膈膜和左膈膜通过轴连接，右膈膜向左移动，右腔容积增大，吸入液体。当右膈膜的压板接触右顶针时，右顶针可通过导向阀改变压缩空气的方向。空气进入右室，左、右膈膜向右侧移动，左腔容积增大，液体吸入，右腔容积减小，液体被排出。左膈膜压板接触左顶针时，空气进入左腔室，通过导向阀，重复以上动作完成气动隔膜泵的流体连续输送。

3.1 Defination of Pump Nomenclature命名说明

SF&F PUMP

Model 型号	Size 尺寸	Wetted Parts 接液部件	Non-Wetted Parts 非接液部件	Diaphragm 隔膜	Valve Ball 球阀	MANIFOLD GASKET 歧管垫片	Others 其他
F20/XPE/MTTT/0K0	20	X	PE	MT	T	T	0K0

MODEL

F=SKYLINK SANITORY

SIZE

3/4“=20

1ñ=25

1.5ò=40

2“=50

3”=80

Wetted Parts

X=316L STAINLESS STEEL

S=304 STAINLESS STEEL

Non-Wetted Parts

PE= UHMWPE

DIAPHRAGM MATERIAL

MT= Teflon-EPDM BACKED (PLATE INSIDE)

EE= Santoprene (PLATE INSIDE)

MM= EPDM (PLATE INSIDE)

VALVE BALL MATERIAL

E= Santoprene

M= EPDM

V=Viton

T= Teflon

X= Stainless Steel (316L)

S=304 STAINLESS STEEL

MANIFOLD GASKET

V= Viton

T= Teflon

M= EPDM

OTHERS

0K0= DIN Sanitory Connector

00C=Sensor style

Chemical Properties are as follows化学特性如下:

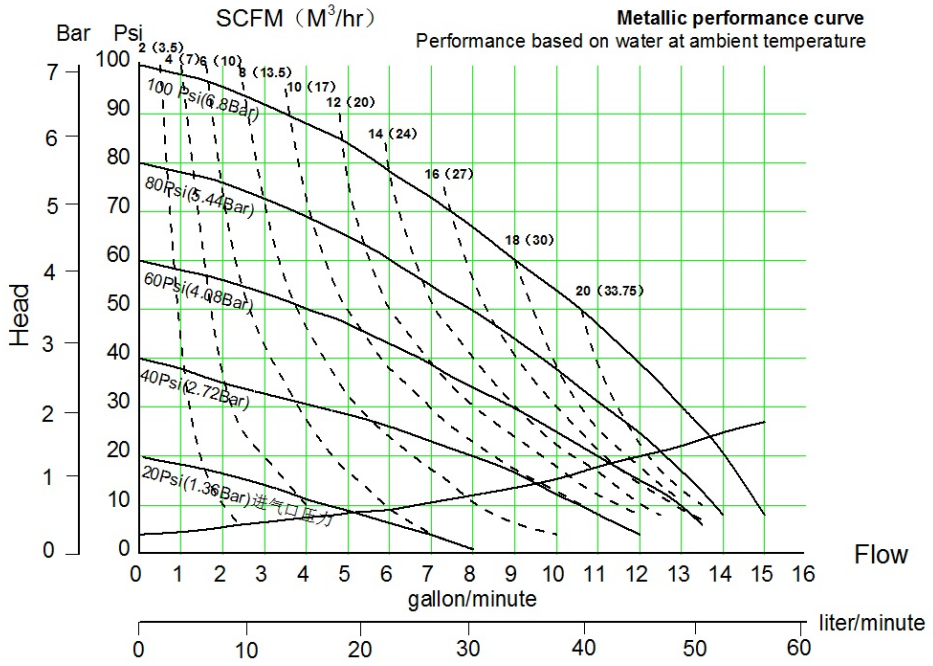
Materials材质	Chemical Properties化学特性
Virgin PTFE **聚四氟乙烯**	Chemically inert,virtually impervious. Very few chemicals are known to chemically react with PTFE; molten alkali metals, turbulent liquid or gaseous fluorine and few fluorochemicals such as chlorine trifluoride or oxygen difluoride with ready liberate free fluorine at elevated temperatures. 化学惰性，几乎完全不透水。很少有化学品可以与聚四氟乙烯发生化学反应：熔融的碱性金属，湍流液体或气态氟，以及一些在温度升高时易释放的游离氟的氟代化学物质，如三氟化氯或二氟化氧等会迅速腐蚀聚四氟乙烯。
Santoprene **三道橡胶**	Injection molded thermoplastic elastomer with no fabric layer,Long mechanical flex life. Excellent abrasion resistance. 注塑成型的热塑性弹性体，无织物层，机械弯曲寿命长。具有优异的耐磨性。
Neoprene **氯丁橡胶**	All purpose, Resistant to vegetable oil. Generally not affected by moderate chemicals, fats, greases and many oils and solvents. Generally attacked by strong oxidizing acids, ketones, esters, nitro hydrocarbons and chlorinated aromatic hydrocarbons. 用途广泛，耐植物油。一般不受温和的化学品，脂肪，油脂和许多油和溶剂的影响。通常会受到强氧化酸、酮类、酯类、硝基烃和氯代芳烃的腐蚀。
Buna **丁腈橡胶**	General purpose, oil-resistant. Shows good solvent, oil, water and hydraulic fluid resistance. Should not be used with highly polar solvents like acetone and MEK, ozone, chlorinated hydrocarbons and nitro hydrocarbons. 通用，抗油性。具有良好的耐溶剂、油、水和液压特性。不可与强极性溶剂如丙酮和丁酮、臭氧、氯化烃和硝基烃等一起使用。
Viton **氟橡胶**	Shows good resistance to a wide range of oils and solvents; especially all aliphatic, aromatic and halogenated hydrocarbons, acids, animal and vegetable oils. 对各种油和溶剂具有良好的抗性，尤其是所有脂肪族、芳香族和卤代烃、酸、动物和植物油。
PVDF **聚偏二氟乙烯**	A durable fluoroplastic with excellent chemical resistance. Excellent for UV applications. High tensile strength and resistance. 一种耐用的氟塑料，具有优异的耐化学性,在UV应用方面是最佳选择，具有高拉伸强度和耐冲击性。
Polypropylene **聚丙烯**	Thermoplastic polymer. Moderate tensile and flex strength. Resists strong acids and alkalie. Attacked by chlorine,fuming nitric acid and other strong oxidizing agents. 热塑性聚合物。中等拉伸强度和抗弯强度。抗强酸和强碱。易受氯气、发烟硝酸及其他强氧化剂的侵蚀。
Alloy C **合金C**	Equal to ASTM494 CW-12M-1 specification for nickel and nickel alloy. 相当于ASTM494 CW-12M-1规格的镍和镍合金。
EPDM **三元乙丙橡胶**	Shows very good water and chemical resistance. Has poor resistance to oil and solvents, but is fair in ketones and alcohols. 表现出很好的耐水性和耐化学性，对油和溶剂耐受性差. 但在酮和醚中性质不变。
Stainless steel **不锈钢**	Equal to exceeding ASTM specification A743CF-BW forcorrosion resistant iron chromium,iron chromium nickel,and nickel based alloy castings for general applications. Commonly referred to as 316 Stainless Steel in the pump industry. 相当于或超过ASTM规范A743CF-BW，适用于一般用途的耐腐蚀的铬铁、铁铬镍和镍基合金铸件。泵行业通常称为316不锈钢。

For specific applications,you can contact us其他特殊应用请联系我司。

Operating temperature limitations are as follows工作温度极限如下:

Materials材质	Maximum最高	Minimum最低
Virgin PTFE **聚四氟乙烯**	220℉ 104℃	-35 ℉ -37℃
Santoprene **三道橡胶**	225 ℉ 107℃	-10 ℉ -23℃
Neoprene **氯丁橡胶**	177℉ 77℃	-10 ℉ -23℃
Buna **丁腈橡胶**	190 ℉ 88℃	-10 ℉ -23℃
Viton **氟橡胶**	350 ℉ 177℃	-40 ℉ -40℃
PVDF **聚偏二氟乙烯**	250 ℉ 121℃	0 ℉ -18℃
Polypropylene **聚丙烯**	150℉ 66℃	32 ℉ 0℃
EPDM **三元乙丙橡胶**	280 ℉ 138℃	-40 ℉ -40℃
Alloy C **合金C**	-	-
Stainless steel **不锈钢**	-	-

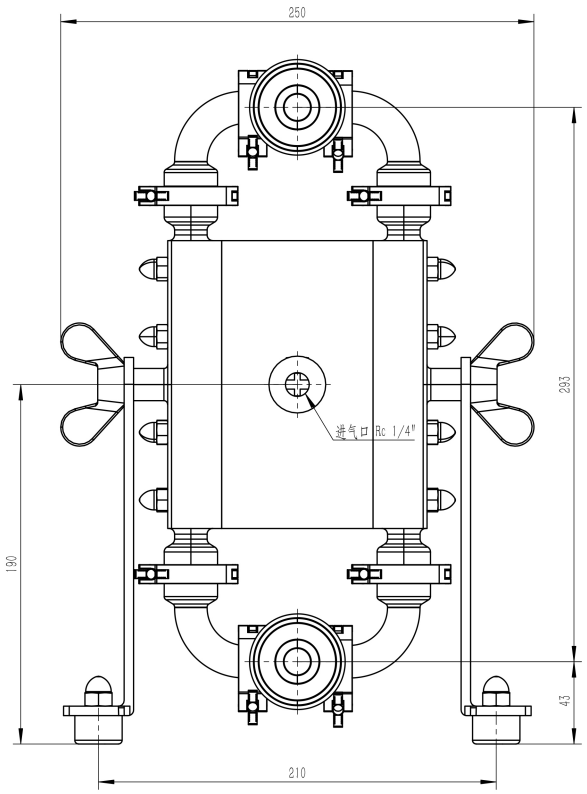
For specific applications,you can contact us其他特殊应用请联系我司。



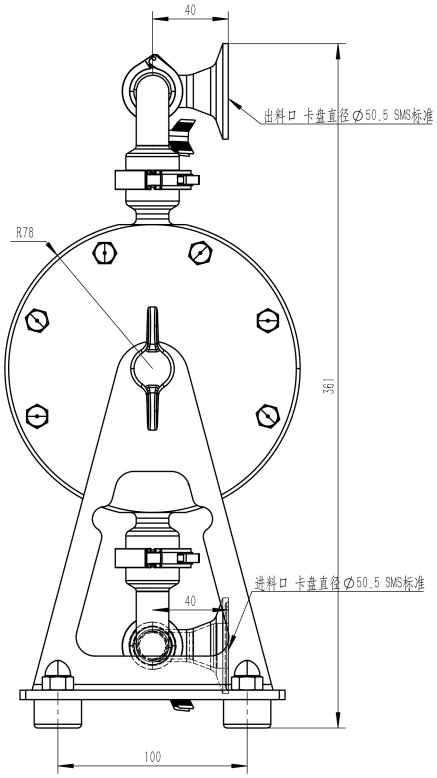
Fluid flow - lpm
流量-升/分钟

*Performance is based on the following: elastomer fitted pump, flooded suction, water at ambient conditions. The use of other materials and varying hydraulic conditions may result in deviations in excess of 5%.
以上性能是基于以下：氯丁橡胶膜片泵，泵入口没有吸程，出口没有扬程，输送介质为水。使用其他材料和不同的液压条件可能导致偏差超过5%。

3.6 AC15 dimensional drawing (Thread)尺寸图（螺纹）



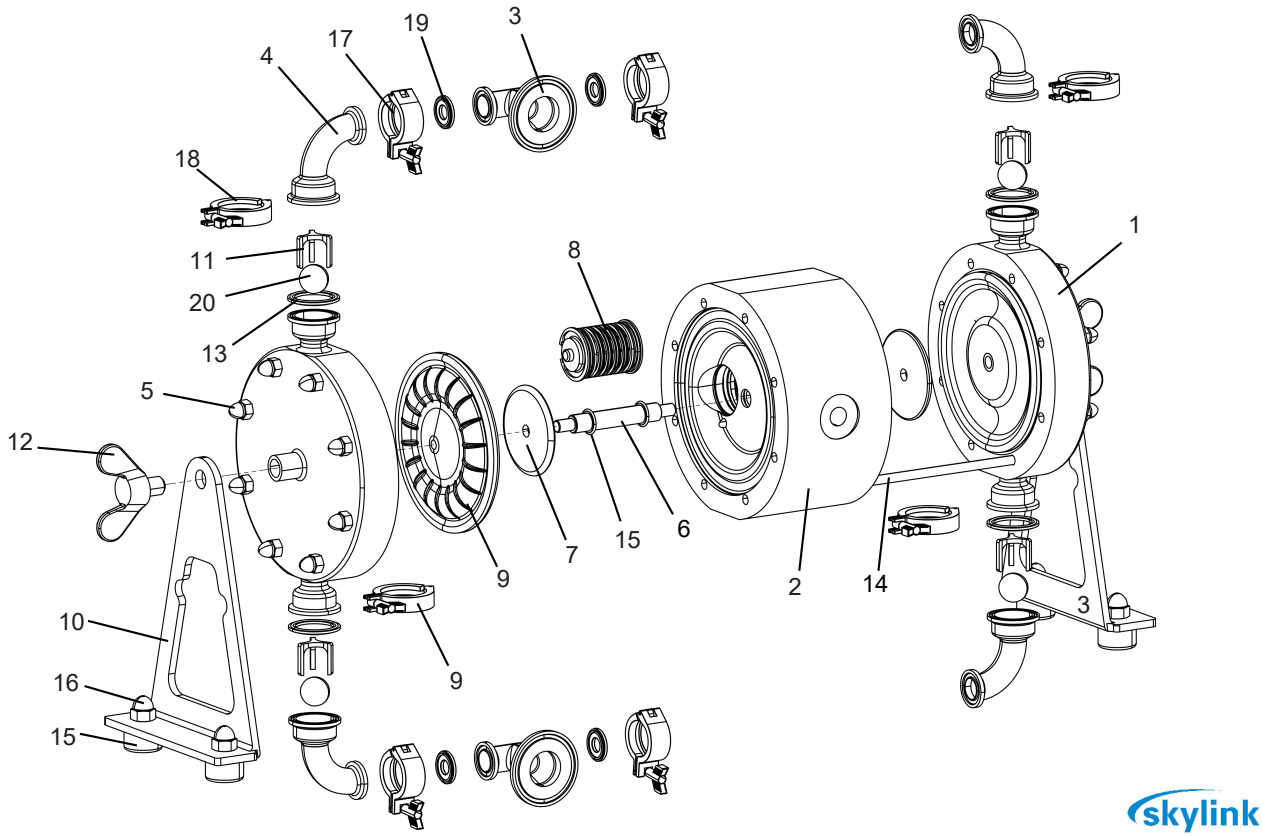
FRONT VIEW
前视图



SIDE VIEW
侧视图

* The dimensions on this drawing are for reference only A certified drawing can be requested if physical are needed.
此图的尺寸仅供参考，如果需要，可以向我司要求提供图纸。

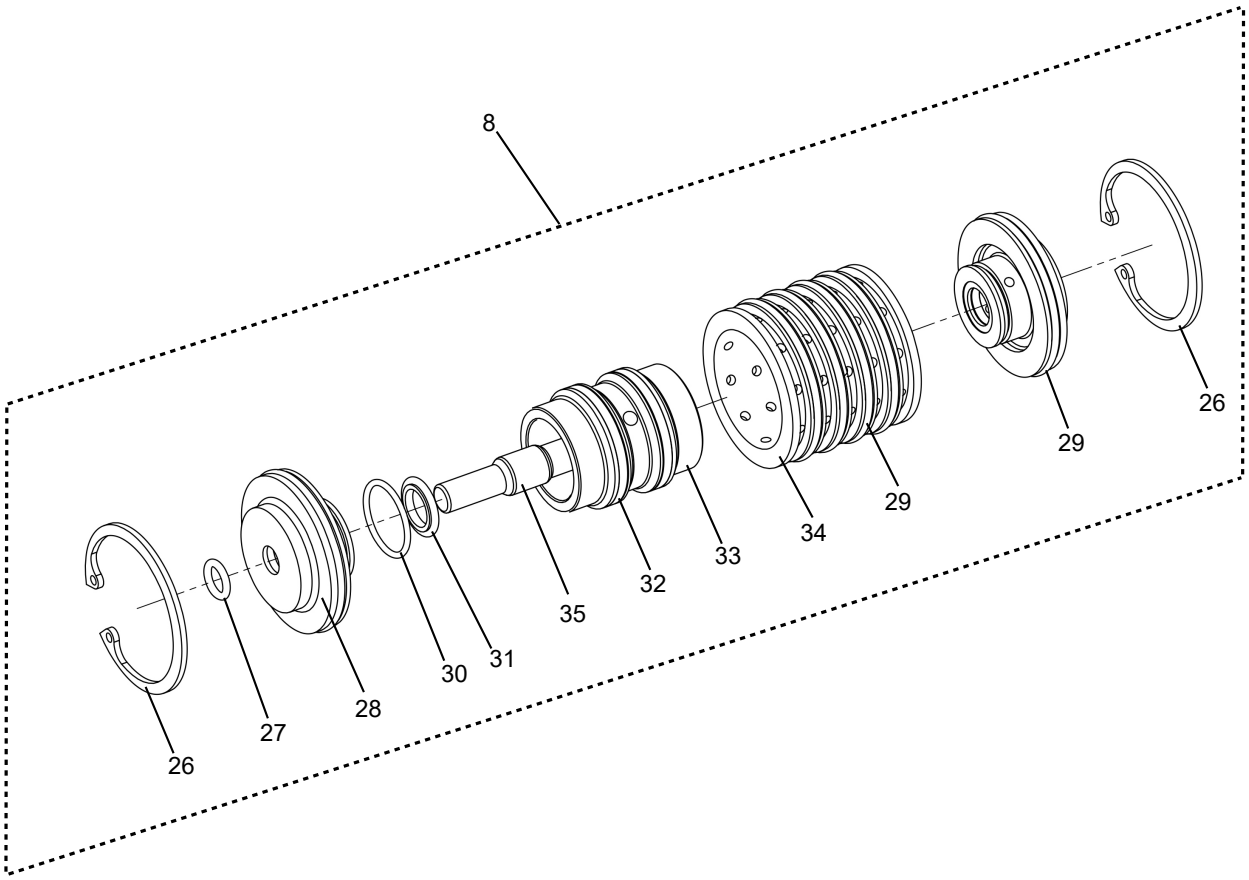
Figure 1 F20 Diaphragm Pump Exploded View
图1 F20 隔膜泵分解图



F20 Parts List F20零件目录

Number图号	Part Number零件号	Description描述	Quantity数量
1	AH20外腔体	316L&304	2
2	AD15中间体UPE	UPE	1
3	AH20三通	316L&304	2
4	AH20料口弯头	316L&304	4
5	M6盖形螺母	304	16
6	AD15中心轴	304	1
7	AD15内压板	304	2
8	AD15气阀组件	POM	1
9	AD15复合膜片	EPDM&PTFE	2
10	1/2"支架	304	2
11	AH20球笼	316L&304	4
12	蝶形螺丝 M12*16	304	2
13	AH15球桶垫片	PTFE	4
14	AH15外腔体螺杆	304	8
15	减震垫 M8*10	304+NBR	4
16	M8盖形螺母	304	4
17	单铆钉卡箍+10号太空梭	304	4
18	单铆钉卡箍+14号太空梭	304	4
19	三通卡盘垫圈	PTFE	4
20	1/2"阀球	PTFE	4
21	AD15消音器	UPE	1

Figure 2 AD15 Air Valve Exploded View
图2 AD15 气阀分解图



AD15 Parts List AD15零件目录

Number图号	Part Number零件号	Description描述	Quantity数量
26	AD15主气阀内卡卡簧	φ34	2
27	AD15导向阀阀芯O型圈	内径5.5×1.5	2
28	AD15气阀盖板	POM	2
29	O型圈	29×1.5 N70	6
30	AD15气阀阀芯O型圈	14×1.2 N70	2
31	轴用格莱圈	13×8×2 POB+PTFE	4
32	孔用格莱圈	25×20×2.2 POB+PTFE	2
33	AD15气阀阀芯	POM	1
34	AD15气阀套	POM	1
35	AD15导向阀阀芯	304	1

SKYLINK AODD pumps are able to fulfill different requirements of most demanding fluid transfer, they are designed as well as manufactured in such high quality, in order to satisfy our clients' various demands. SKYLINK provides diaphragms which are made of different elastomeric materials to be suitable for different environments according to clients' requirements.

斯凯力气动隔膜泵高超的设计和制造品质，能够满足客户不同需求以及最苛刻条件的流体输送。斯凯力可根据客户的要求提供不同弹性材料制成的隔膜，以适用于不同的环境。

Piping管道:

The pipes which are connected to the inlet and outlet must be incompressible material, so that those pipes are able to bear a high vacuum. All piping should be equivalent size or larger than the diameter of the inlet and outlet, which will improve pump's performance.

连接到入口和出口的管道必须是不可压缩的材料，以便那些管道能够承受高真空。所有管道的尺寸应大于或等于进口和出口的直径，这将提高泵的性能。

Installation安装:

Engineer and installation personnel shall propose an integrated installation plan, which will make pumps perform better, meet fluid transfer requirement and easier to maintain in the future.

工程师和安装人员应提供一体化的安装计划，以满足流体输送要求，而且将来更方便维护。

Location位置:

When install pumps, enough space shall be left for maintenance personnel to do maintenance or even rebuild your system, such as add a pressure gauge or a valve on the pump in the future. 安装泵时，维修人员应留有足够的空间进行维修或重建系统，如将来在泵上加装压力表或阀门。

Air supply供气:

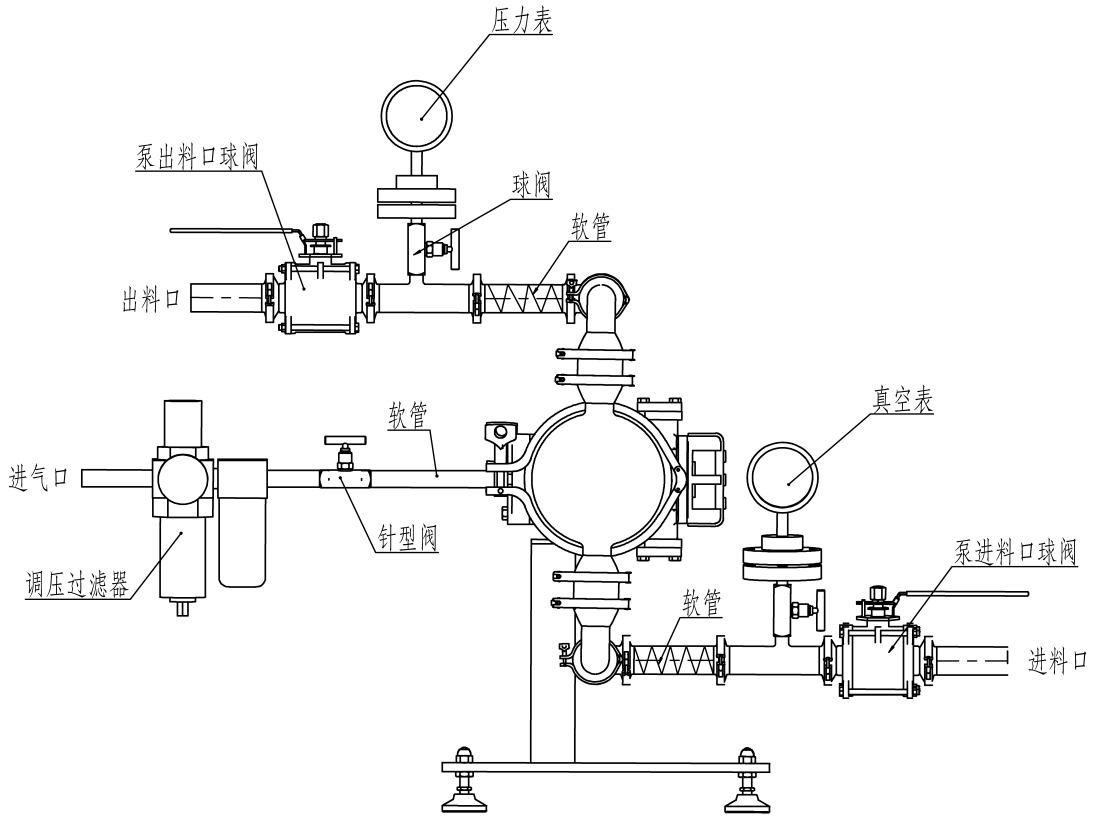
Each pump must have a sufficient air supply to meet pump's air demand, if air supply is not powerful enough, the pump will not reach its best performance. Use air pressure up to 8.6 bar (125 Psig) according to different pumps. In addition, proper air filter and regulator are also important for pump to its performance, so SKYLINK recommends that a 5μ(micron)air filter shall be applied before pump's air inlet.

每台泵都必须有足够的空气供应以满足泵的空气需求。如果空气供应不足，泵将无法达到最佳性能。根据不同的泵，使用空气压力最高可达8.6巴（125Psig）。此外，适当的空气过滤调压阀对于泵的性能也是重要的，因此斯凯力建议泵进气口前应使用5μm（微米）空气过滤器。

Solenoid control电磁阀控制

If air supply of pump is controlled by solenoid valve, a three-way valve shall be applied in order to release the air which is stuck between the pump and valve.

如果用电磁阀控制泵的供气，则应采用三通阀，以释放泵和阀之间的空气。



Operation: 操作

Do not lubricate the pump before operate, because it is pre lubricated, additional lubrication will not damage the pump, however if the pump is heavily lubricated by an external source, the pump's internal lubrication may be washed away. If the pump is over-lubricated, when the pump is moved to a non-lubricated location, it shall be dismantled and re-lubricated as disassembly/reassembly section.

在运行泵之前不需要再润滑泵内部结构，因为已经预先润滑了。额外的润滑不会减少泵寿命，但是如果泵内部过度润滑，泵有可能会出现润滑失效的情况，这个时候就要拆掉主气阀重新组装。

The flow rate of the pump can be adjusted according how powerful the air supply is, an air regulator is used to regulate air pressure, and the needle valve is to regulate volume.

泵的流量可根据空气供应量的大小进行调节，空气调压阀用来调节空气压力，针形阀调节输出流量。

Maintenance:维修

Different working condition (Frequency of use, air pressure, viscosity of fluid and abrasiveness of process fluid) affects parts life of pumps, so each pump must have its own maintenance schedule. Before operating the pump, a visual inspection shall be taken, check all fasteners, tighten if they are loose.

不同的工作条件（使用频率，气压，流体粘度和流体磨损性）会影响泵部件的寿命，所以每台泵都必须有自己的维护计划。在操作泵之前，应进行目视检查，检查所有紧固件，有松的必须拧紧。

Records:记录

Each maintenance shall be recorded, those records will become a useful tool to predict and avoid some potential issues which would happen in the future. Furthermore, an elaborate record can identify if the pump is truly suitable for such application as well.

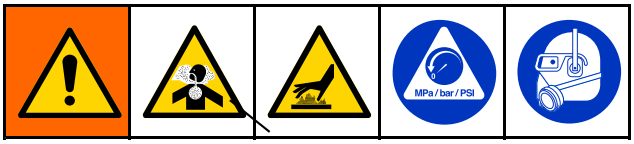
每次维护都应该被记录下来，这些记录将成为预测和避免以后可能发生的一些潜在问题的有用工具。此外，精细的记录可以识别泵是否确实适合这种应用。

Malfunction description 故障描述	Reason 原因	Solution 解决方法
Pump is working, but no fluid is discharged or low outlet pressure, few fluid is discharged. 泵在工作，但没有流体排出或出口压力低，很少有流体排出。	Due to serious damage of check valve(ball & seat), so that it is not able to seal properly 止回阀（球和阀座）严重磨损无法密封	Dismantle both upper and bottom seat, if a huge gap between ball and seat, ball can be changed. 拆开上、下两个球座，如果球与座之间有较大间隙，则可更换球。
	Main valve serious damage, air leakage 主气阀严重磨损，漏气	Change spool valve & valve bush of main valve 更换主气阀的滑阀芯阀套
	Fluid inlet or pipe are unsealed 流体入口或管道未密封好	Check if fluid inlet and pipe are sealed properly 检查流体入口和管道是否已被正确密封
	Exceed pump's performance 超出泵的工作能力	Adjust installation position of pump, as closer to fluid as possible. 泵的安装位置越靠近流体越好
	"O"ring of pilot valve damages 导向阀密封圈磨损	Check pilot valve 检查导向阀
	Damage of internal spring or "O" ring of quick adapter which is connected to the pump.进气快接头内的弹簧或 O 型圈损坏	Dismantle quick adapter, check if it works after connect to the air source 拆除快接头，重新连接气源后看泵是否恢复正常
	Unsealing due to loosen bolts 螺栓松	Tightening all bolts 紧固所有螺栓
	Outlet is blocked 出口堵塞	Check outlet and valve opening 检查出口阀门是否开
	Ball is not able to fully return by its own weight and seal due to high viscosity of fluid 由于流体太粘稠球无法通过自重回落密封	Change a heavier ball 更换重球
	Due to the damage of the O-ring of the intermediate shaft or the gasket of the pilot valve, the seal cannot be sealed. 由于中间轴的O型圈或导向阀垫片的损坏无法密封。	Check all rings, gaskets, change if damaged 检查所有密封圈，垫片，如有损坏更换
	Fluid leaks out form muffler due to damage of diaphragm or washer. 隔膜或垫圈损坏，流体从消声器中泄漏出来。	Change diaphragm, tightening washer 更换隔膜，紧固压板
	Insufficient air pressure or air flow 气压或气流量不足	Increase air pressure or air flow 增加气压或气流量
	Flow limit due to inflation of ball 阀球膨胀导致流量受限制	Check chemical compatibility of ball material and fluid 检查阀球与流体的化学适应性
Pump is not working 泵不工作	Main valve is stuck, unmovable by hand serious damage of spool valve of main valve, huge gap causes air leakage 主气阀卡死，手指推不动，或滑阀芯严重磨损，间隙大造成漏气	Change spool valve & valve bush 更换滑阀芯阀套
	Pores of pilot valve are blocked, glyd ring of valve bush damages seriously, air leakage 导向阀小孔堵塞，阀芯格莱圈严重磨损，漏气	Clean up valve casing, change Spool assembly 清理阀套，更换阀芯组件
	Valves of inlet and outlet stay shut 进出口阀门关闭	Release valves 打开进出口阀门
	Muffler is blocked, air suffocate 消音器堵塞，无法排气	Change muffler 更换消音器
	Excessive lubrication 过度润滑	Decrease lubricating oil volume in oil-water separator 降低油水分离器润滑油流量
	Air leakage due to "O" ring of shaft damages seriously 中间轴O型圈严重损害导致漏气	Change "O" ring 更换O型圈

	Air valve stays shut 气阀关闭	Solenoid valve fails or air source is shut 电磁阀失灵或气源关闭
	Mid chamber occurs pores due to corrosion 中间体因腐蚀穿孔	Change mid chamber 更换中间体
	Air valve, pilot valve, air inlet gasket damage 气阀、导向阀进气垫片损坏	Change damaged parts 更换损坏零件
	Material solidified in cjamber 物料凝固在腔体	Dismantle chamber and clean up 拆开腔体清理
Pump is working after outlet valve is shut 出口阀门关闭后泵仍在工作	Outlet valve is not totally sealed 出口阀门没有完全密封	Shut outlet valve totally or change it 完全关闭出口阀门或更换阀门
	Check valve(ball & seat) is not totally sealed, sundries might be stuck between 止回阀（阀球和球座）无法完全密封，有杂物卡在球和球座之间	Change check valve(ball & seat) of clean sundries 清除止回阀（阀球和球座）间的杂物
After a period of time works normally, the pump fails to work, then it back to normal again after a few hours in winter time 在冬天经过一段时间的正常工作，泵停止工作，然后几小时后又恢复正常。	Pump is frozen 泵结冰	Keep air sorce dry and moisture percentage of air source as less as possible. release water in air compressor, air container air pipes on time 保持气源干燥，降低气源的湿度百分比。及时排放空压机、储气罐和气管中的水
		Change surrounding environment, keep warm in order to avoid freezing 改变周围环境保暖以避免结冰
		Slow down working frequency, so that avoid freezing 放慢工作频率，以免结冰
		Add a few lubricating oil, lower the freezing point 加入少量润滑油，降低冰点
Noise or abnormal sound 噪音或声音异常	Sound due to ball in the pump shell 球撞击声音	No maintenance, not affecting normal use 无需维修，不影响正常使用
	Mid chamber occurs a loud noise when release air 中间体排气时发出很大的声音	Change muffler 更换消音器
Outlet occurs bubble 出口出现气泡	Inlet or inlet pipes are not sealed properly 入口或入口管道未正确密封	Check if fluid inlet and pipe are sealed properly 检查入口或入口管道是否正确密封
	Air leakage due to damage of diaphragm or looseness of washer 隔膜损坏或压板松动引起的空气泄漏	Change diaphragm, tightening washer 更换隔膜，紧固压板
Fluid leaks from chamber 流体从消音器泄露出来	Leakage occurs around bolt 螺栓周围发生泄漏	Retightening bolt 再拧紧螺栓
	Leakage occurs around muffler 消音器周围发生泄漏	Check diaphragm and washer 检查隔膜和压板

7.1 Remove the fluid section

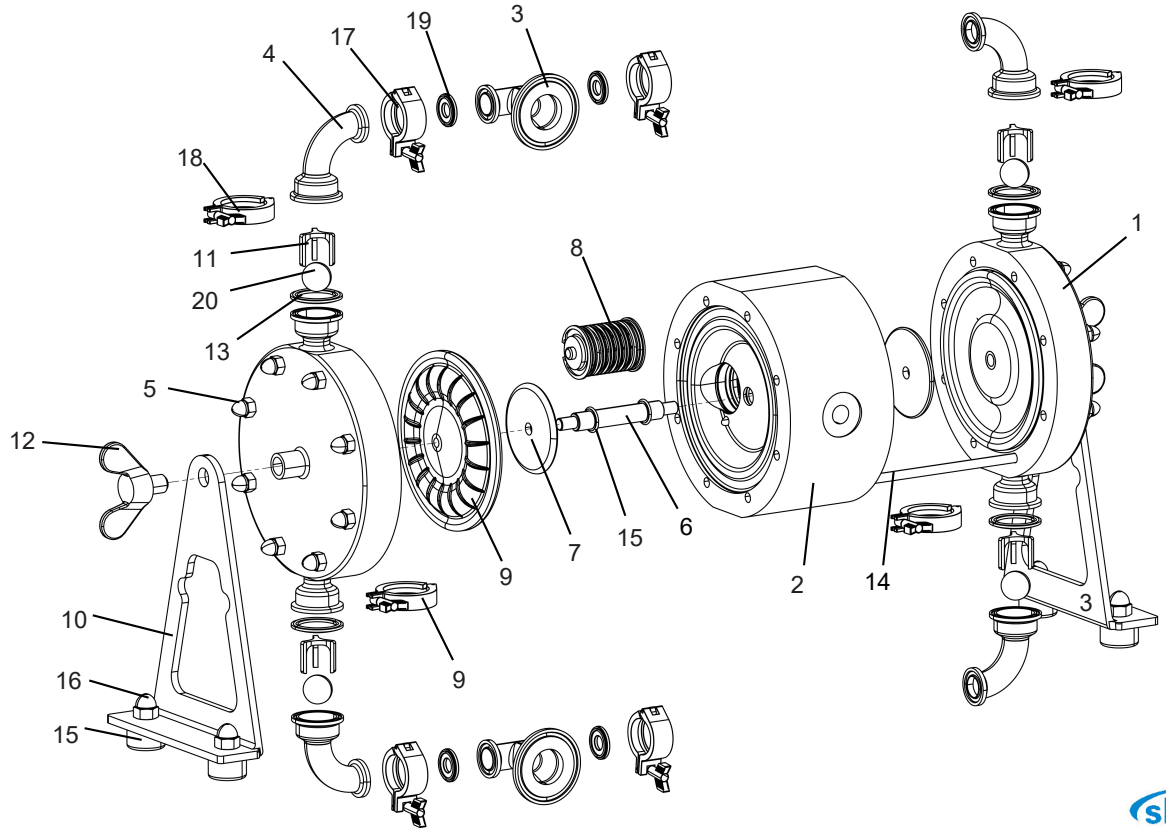
拆卸流体部分



Caution 注意：
Before dismantling the pump, the air source must be cut off to eliminate the air pressure; If it is disassembled with pressure, it may cause injury, pump damage or property loss. Finally, empty all the materials in the pump cavity to ensure that there is no material in the cavity.
拆卸泵之前，必须切断气源，消除气压；如果带压力拆卸，则可能造成伤害、泵的损坏或财产损失。最后，排空泵腔体内的所有物料，确保腔体内没有任何物料。

Tools工具: 10mm Socket wrench 套筒扳手

1.Remove the clamp (18) ,take out the valve ball (20)and ball cage (11), neatly placed aside, when the pump inlet and outlet has been removed.
将卡箍(18)拆下，取出阀球(20)和球笼(11)，整齐摆放到一旁，这时泵的进出料口已被拆下。
2.Remove the ball assembly, check whether there is wear or damage between the ball and ball seat. In order to obtain the best performance, please replace the damaged parts in time.
移除阀球组件，检查阀球(20)，球笼(14)之间是否有磨损或损坏，为了获得最佳性能，请及时更换损坏的零件。
3.Use two 10mm socket spanners to remove the nut of the outer chamber. At this time, the screw of the outer chamber will be pulled out from the other side.
使用两个10mm套筒扳手拆卸外腔体螺母(5)，此时外腔体螺杆(14)将从另一面抽出。
4.Remove the outer cavity from the intermediate.
将外腔体(1)从中间体(2)上卸下。



7.2 Remove middle section
拆卸中间部分

1.Screw one diaphragm and inner pressing plate off the intermediate shaft, and slide the other diaphragm out of the intermediate shaft.

将一侧隔膜(9)同内压板(7)从中间轴(6)上拧下，另一隔膜同中心轴从中间体(2)滑出。

2.Remove the muffler from the valve body, check the inner core of the muffler and replace it if necessary.

从中间体(2)上拆下消音器(21)，检查消音器内芯，根据需要更换。

3.Take out the air valve assembly from the middle body with the spring pliers, take out the main air valve assembly, remove the air valve cover plate, push out the air valve spool, observe the valve sleeve, spool wear, replace the air valve assembly if necessary.

用卡簧钳将气阀组件(8)从中间体内取出，取出气阀组件，卸下气阀盖板(28)，推出气阀阀芯(33)，观察阀套(34)，阀芯(33)磨损情况，必要时更换气阀组件。

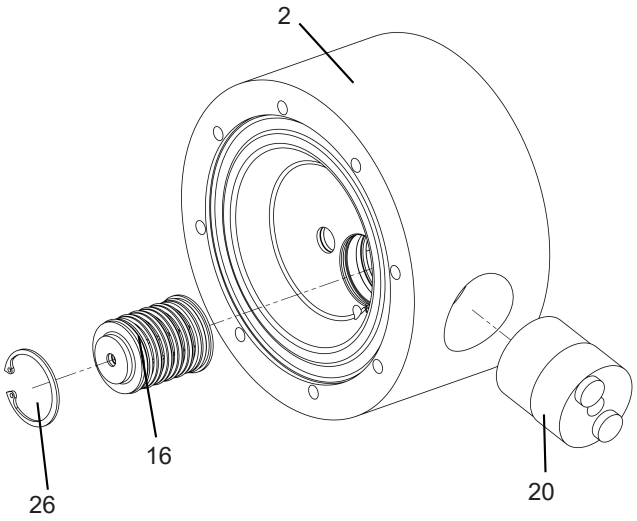


Figure 7.2 Remove middle section
中间部分拆卸

7.3 Reassembling the middle section
重新装配中间部分

1.Screw the muffler into the corresponding exhaust port of the intermediate.

将消音器(21)拧入中间体(2)对应的排气口上。

2.Apply a thin layer of grease evenly to the O-ring of the valve assembly. Be careful not to plug the air hole. Press the air valve assembly evenly into the intermediate and fix the air valve assembly with a spring

在气阀组件(8)的O形圈(29)上均匀涂上薄薄一层润滑脂。小心不要塞住气孔。将气阀组件均匀按入中间体(2)，用卡簧(26)固定气阀组件

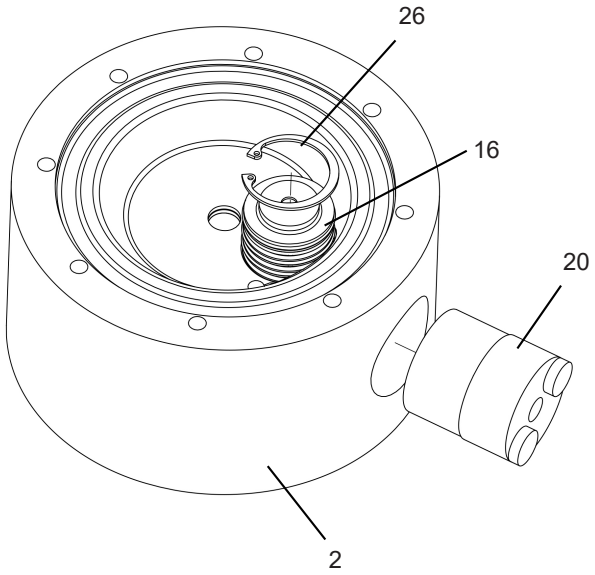


Figure 7.3.1 Reassembling the middle section
重新装配中间部分

扭矩说明

If the outer cavity pad or inlet and outlet screws are loose, be sure to tighten the following steps to improve the sealing condition.

如果外腔体垫板或进出口螺丝已松动，一定要按照以下步骤拧紧以改善其密封状况。

注意Caution
Do not over tighten.Bolbolts too tight will damage the pump. **请勿过度扭紧。**螺栓拧得太紧将损坏泵。

Caution: Always tighten the outer cavity cushion plate bolts before tightening the inlet and outlet bolts.
注意：始终先拧紧外腔体垫板螺栓，再拧紧进出料口螺栓。

1.Tighten each screw first until the screw cap contacts the gasket.
先将每个螺丝拧紧至螺丝帽接触到垫片为止。
2.Then tighten each screw in crossover until the torque is specified.
然后再以交叉方式将每个螺丝拧紧直至指定扭矩为止。

外腔体螺丝