

GK25 LEAKAGE DETECT DEVICE STAINLESS STEEL PNEUMATIC DIAPHRAGM PUMP DETAILS

PRODUCT SPECIFICATIONS



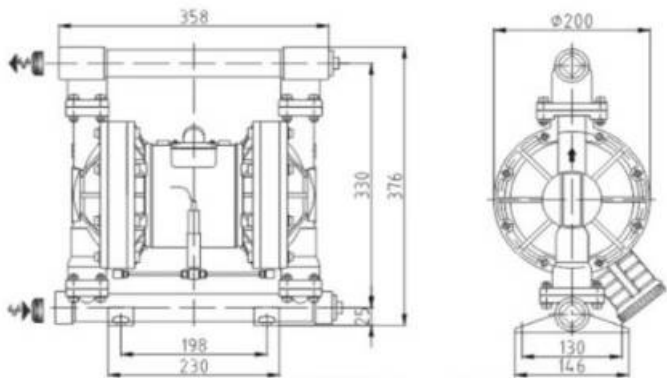
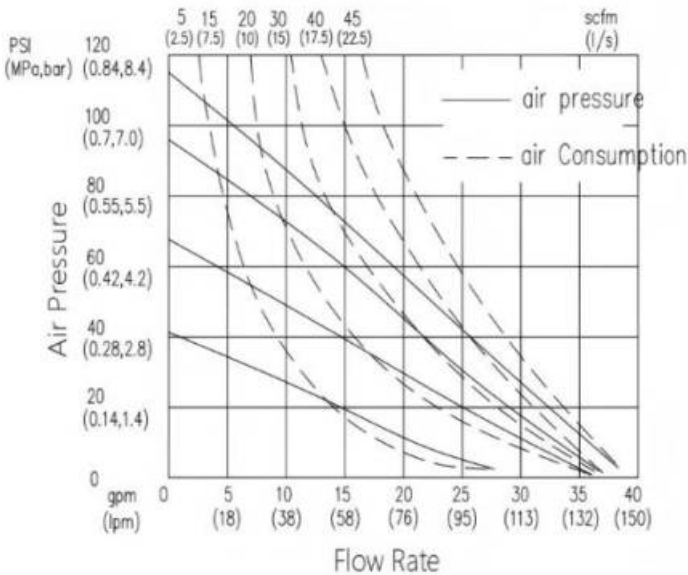
Technical Specifications	
Max. Working Pressure	120 psi(0.84Mpa,8.4bar)
Max Flow Rate	40 gpm(150 lpm)
Max Reciprocating Speed	276 cpm
Max Suction Height (Dry)	5m
Max permitted Grain	0.16in. (4mm)
Max Air Consumption	45scfm (22.5L/s)
Air Inlet Size	1/2 in.
Air Outlet Size	3/4 in.
Fluid Inlet Size	1 in.
Fluid Outlet Size	1 in.
Weight	22kg

Product Overview

GinKai Stainless Steel Series

- Premium Durability:
 - Constructed with 304/316/316L stainless steel for exceptional corrosion resistance.
 - Withstands high-temperature processes (up to 120°C) and high-pressure environments.
- Hygienic Excellence:
 - Mirror-polished surfaces – ideal for FDA-regulated food, pharma, and biotech applications.
- Versatile Performance:
 - Efficiently transfers corrosive chemicals, viscous slurries, or abrasive media with suspended particles.
 - Zero contamination risk for ultra-clean processes like dairy filling or sterile pharmaceutical transfers.

GK25 Technical Curve



I. GENERAL INFORMATION

The pneumatic diaphragm pump produced by our company with leakage alarm and shutdown device can prevent the leakage of transported fluid in the work. The advantage is that it can detect and stop working in time when the rubber diaphragm in the pneumatic diaphragm pump breaks.

The leak detection system integrates a leak cup, magnetic float ball, and magnetic reed switch mounted on the cup via stainless steel tubing. Each chamber of the pneumatic diaphragm pump contains two diaphragms with a central cavity. When the outer diaphragm (the liquid-pressure-bearing component) ruptures during prolonged operation, liquid flows into the leak cup. A permanent magnet in the cup lifts the cylindrical float ball, triggering the upper reed switch via its magnetic trigger mechanism. This triggers an alarm and shutdown, effectively preventing external leaks and internal component damage caused by liquid flow into the intermediate chamber after diaphragm failure. The system enables precise equipment localization, safeguarding personnel, enterprises, and environmental interests. Compared to non-equipped devices, this innovation delivers unparalleled advantages for businesses, society, and the environment, demonstrating significant practical value in real-world applications.

The pneumatic diaphragm pump with external leakage alarms and shutdown devices is available in four specifications, featuring inlet/outlet diameters of 1 ", 1.5", 2 ", and 3" respectively. The fluid components are made of stainless steel or plastic. Diaphragms are available in various materials including nitrile rubber, chloroprene rubber, polyethylene, three-way rubber, polyether rubber, fluororubber, PTFE, and PTFE, ensuring compatibility with different liquid media requirements.

II. Working Principle:

Working Principle of Pneumatic Diaphragm Pump: Within the two symmetrical working chambers of the pump, elastic diaphragms are installed. A connecting rod integrates these diaphragms into a single unit. Compressed air enters through the intake port and pushes the diaphragms in both chambers, driving synchronized movement of the connected rods. Simultaneously, gas from the other chamber is expelled through the diaphragm's rear side. When the piston reaches its end position, the valve mechanism automatically redirects compressed air to the opposite chamber, initiating reverse motion that creates synchronized reciprocating movement between the diaphragms. Each chamber contains two check ball valves. The reciprocating diaphragm motion alters chamber volume, forcing these valves to alternately open and close, thereby enabling continuous liquid intake and discharge.

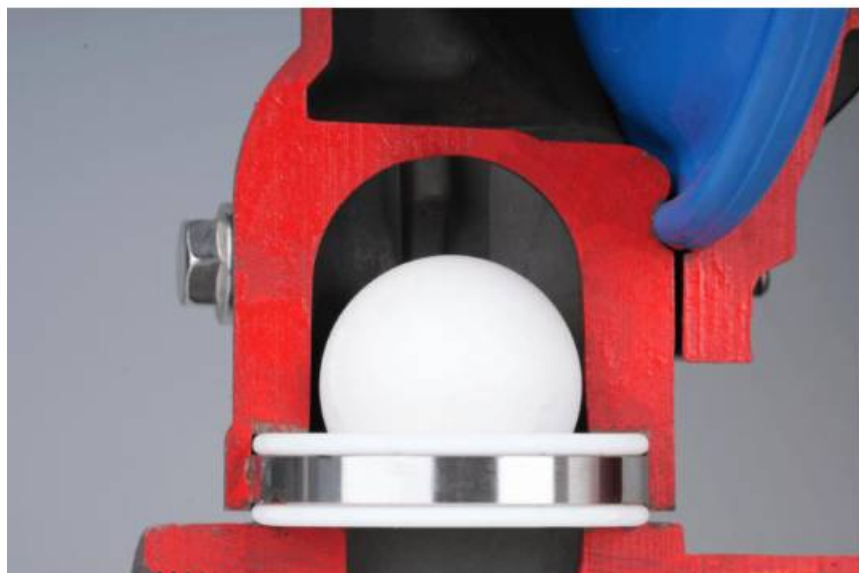
The most distinctive feature distinguishing pneumatic diaphragm pumps from other types lies in their valve design. Unlike conventional models with O-ring and cylindrical structures, pneumatic pumps employ a three-way pilot valve system that eliminates valve dead points and pump shutdowns. This innovation delivers precise directional signals to prevent operational interruptions while enabling faster directional changes, resulting in higher flow rates. The optimized performance ensures reduced pulsation and more stable fluid movement.

The pneumatic diaphragm pump features a simple yet highly reliable air directional valve design, ensuring uninterrupted operation and avoiding costly downtime. All air valve components can be replaced without disassembling the fluid system. The aluminum parts undergo special treatment to resist corrosion from contaminated air. The plastic sliding block in the directional valve is robust and durable, requiring no lubrication to maintain unobstructed airflow and ensure smooth directional switching.

Our Advantages

Our advantages

- High-end imported diaphragm
- Low friction pump shaft
- Patent air valve cover
- Pilot type air motor
- large volume flow chamber
- Integrated diaphragm block
- High quality hardware
- Three port design



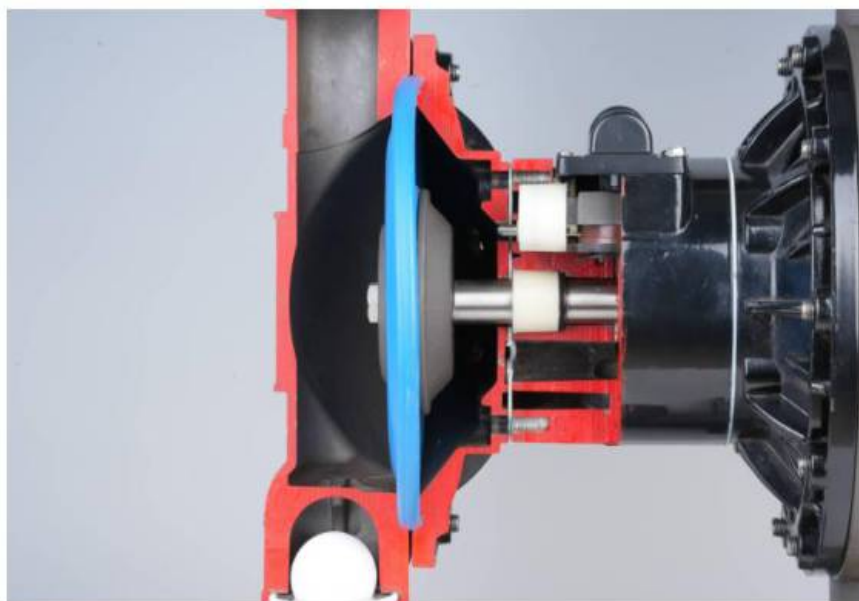
Better sealing and ball life

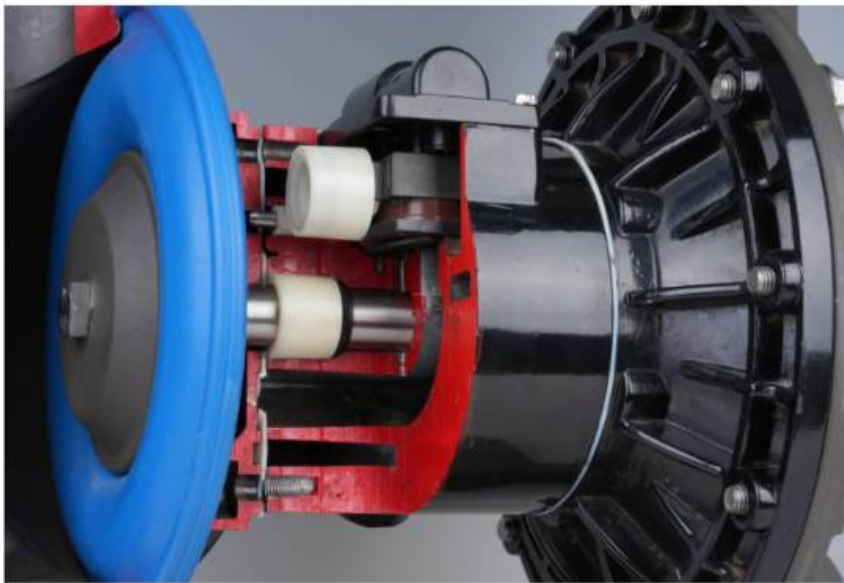
- The ball is twice grinded by professional machine
- Half-arc ball chamber design
- Reversible and reusable Valve seat

Thus assuring better sealing and ball life, reducing maintenance costs.

Large volume flow chamber

- The inner and outer surfaces of are hardened to make the fluid flow smoothly.
- The pump shaft has been grinded and hardened for low friction, high wear and corrosion resistance.
- The diaphragm block is integrated to avoid leakage.





Pilot type air motor

- Valve parts using anti-corrosion, wear-resistant and well self-lubricating material to reduce the air consumption.

- Patent air valve cover

The specially designed patented structure of the air valve cover can generate downward pressure to prevent the air guide switch from falling off during operation and causing a crash.

High quality hardware

- Outer hexagon all stainless steel with flange screws, better stability than the inner hexagon screws.



Model Example:

GK - P - 25 P K F F - F

GINKAI

系列 Series	口径 Size	泵体 Body	阀座 valve seat	球 Ball	膜片 Diaphragm	连接方式(仅塑料泵) Connection (only for plastic pumps)
GK-A 铝合中心体 Aluminum center body	06 = 1/4" (06mm) 10 = 3/8" (10mm) 15 = 1/2" (15mm) 20 = 3/4" (20mm) 25 = 1" (25mm) 40 = 1 1/2" (40mm) 50 = 2" (50mm) 80 = 3" (80mm)	M=Acetal (乙缩醛/AC) P=Polypropylene (聚丙烯/PP) A=Aluminum (铝合金/ADC12) S=SS304 (304不锈钢) K=PVDF (聚偏氟乙烯/KY) D=Ductile Iron (球墨铸铁/DI) L=SS316 (316不锈钢) G=SS316L (316不锈钢)	F=PTFE (聚四氟乙烯) M=Acetal (乙缩醛/AC) S=SS304 (304不锈钢) L=SS316 (316不锈钢) H=Hytrel (聚醚醚酮/HY) T=Santoprene (三道/SP) V=Viton (氟橡胶/VT) P=Polypropylene (聚丙烯/PP) K=PVDF (聚偏氟乙烯/KY) G=SS316L (316L 不锈钢)	F=PTFE (聚四氟乙烯) C=Ceramic (陶瓷) S=SS304 (304不锈钢) L=SS316 (316不锈钢) H=Hytrel (聚醚醚酮/HY) T=Santoprene (三道/SP) B=Buna N (丁腈/BN) V=Viton (氟橡胶/VT) E=EPDM (三元乙丙) G=SS316L (316L 不锈钢)	F=PTFE (聚四氟乙烯) H=Hytrel (聚醚醚酮/HY) T=Santoprene (三道/SP) B=Buna N (丁腈/BN) V=Viton (氟橡胶/VT) E=EPDM (三元乙丙)	F=Flange 法兰 T=Threaded 螺纹