



Diaphragm Pump

PRODUCT CATALOGUE

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IGR Series
Diaphragm Pump



Main uses

1. Pump peanut butter, kimchi, mashed potatoes, red sausage Chocolate, hops, syrup, etc;
2. Pump paint, pigments, glue, adhesives, etc;
3. Pump and suck various types of tiles, porcelain, brick ware, and pottery glaze slurry, etc;
4. Pumping various abrasives, corrosives, cleaning oil stains, etc
5. Pumping various highly toxic, flammable, and easily flammable liquids;
6. Pumping various types of sewage, cement grouting, and mortar;
7. Pump various strong acids, alkalis, corrosive liquids, etc;
8. As a front-end pressure delivery device for various solid-liquid separation equipment.



note

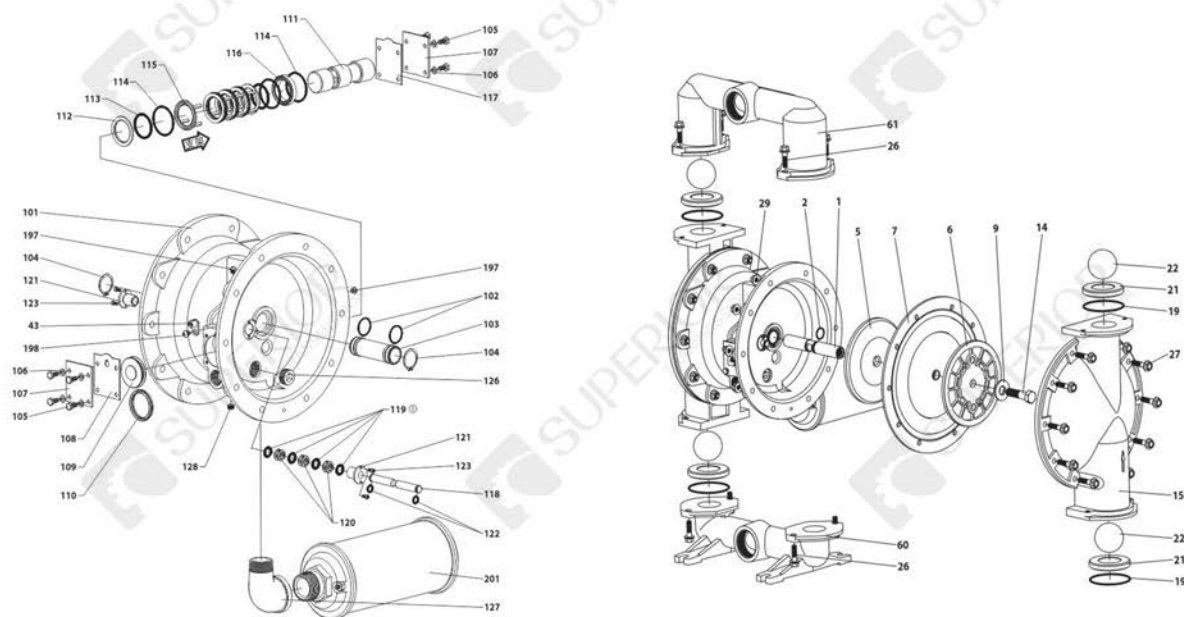
Precautions

1. Ensure that the particles contained in the fluid do not exceed the safe particle diameter standard of the pump. The exhaust of the pneumatic diaphragm pump may contain solids. Do not point the exhaust port towards the work area or people to avoid personal injury.
2. The intake pressure should not exceed the allowable operating pressure of the pump. Compressed air above the rated pressure may cause personal injury, property damage, and damage to the pump's performance.
3. Ensure that the pump pressure pipeline system can withstand the output pressure achieved, and ensure the cleanliness and normal working conditions of the driving gas pipeline system.
4. Electrostatic sparks may cause explosions that can cause personal injury or property damage. Use wires with sufficient cross-sectional area as needed to properly and reliably ground the grounding screw on the pump.
5. The grounding requirements comply with local regulations and legal requirements, as well as some special on-site requirements.
6. Tighten the pump and all connecting pipe joints to prevent static sparks caused by vibration, impact, and friction. Use anti-static hoses.
7. To periodically check and test the reliability of the Earthing system, the grounding resistance is required to be less than 100 ohms. Regular maintenance and inspection are necessary conditions for the proper operation of pneumatic diaphragm pumps.
8. Maintain good exhaust and ventilation, and keep away from flammable, explosive, and heat sources. This is important to stay away from dangerous goods.
9. When transporting flammable and toxic fluids, please connect the discharge port to a safe place away from the work area.
10. Please use a pipe with a smooth inner wall of at least 3/8 "inner diameter to connect the exhaust port and muffler.
11. When the diaphragm fails, the conveyed material will be ejected from the exhaust muffler.
12. Use the pump correctly and do not allow prolonged idle operation.
13. If the pneumatic diaphragm pump is used to transport harmful and toxic fluids, please do not send the pump directly to the manufacturer for repair. Properly handle according to local laws and regulations, and use genuine accessories to ensure service life.
14. Ensure that the pump pressure pipeline system can withstand the output pressure achieved, and ensure the cleanliness and normal working conditions of the driving gas pipeline system.
15. The pneumatic diaphragm pump ensures that all components in contact with the conveying body will not be corroded or damaged by the conveyed fluid.
16. Tighten the pump and all connecting pipe joints to prevent static sparks caused by vibration, impact, and friction. Use anti-static hoses.
17. The high pressure of the fluid in the pneumatic diaphragm pump may cause serious casualties and property losses. Please do not carry out any maintenance work on the pump and material pipe system when the pump is pressurized. If maintenance is required, first cut off the air inlet of the pump, open the bypass pressure relief mechanism to depressurize the Plumbing, and slowly loosen the connected pipe joints.
18. The liquid conveying part of the pump is made of aluminum alloy material. Please do not use it to transport liquids containing Fe³⁺, halogenated hydrocarbons, and other halogenated hydrocarbon solvents, as corrosion may occur and the pump body may burst.
19. Ensure that all operators are familiar with the operation and use of the pump, and master the safety precautions for use. If necessary, provide necessary protective equipment.
20. The grounding requirements for pneumatic diaphragm pumps shall comply with local regulations and legal requirements, as well as some special on-site requirements.
21. The intake pressure should not exceed the allowable operating pressure of the pump. Compressed air above the rated pressure may cause personal injury, property damage, and damage to the pump's performance.
22. The pneumatic diaphragm pump ensures that the particles contained in the fluid do not exceed the pump's Safe passage of particle diameter standards.

Working principle

In the two symmetrical working chambers of the pump, each is equipped with an elastic diaphragm. The connecting rod connects the two diaphragms together, and compressed air enters the distribution valve from the inlet joint of the pump, pushing the diaphragms in both working chambers to drive Synchronize the two diaphragms connected by the connecting rod. At the same time, the gas in the other working chamber is discharged from the pump behind its diaphragm. Once reaching the end of the journey. The valve distribution mechanism automatically introduces compressed air into another working chamber, pushing the diaphragm to move in the opposite direction, thus forming a synchronous reciprocating motion of the two diaphragms. There are two one-way ball valves installed in each working chamber, and the reciprocating movement of the diaphragm causes a change in the volume of the working chamber, forcing the two one-way ball valves to open and close alternately, thereby continuously inhaling and discharging liquid.

IGR structural drawing and fittings



| proj | name | proj | name | proj | name | proj | name | proj | name | proj | name |
|------|--|------|------------------------|------|--------------|------|------------------|------|------------|------|------------------|
| 101 | Matthian body | 105 | cap screw | 109 | piston | 115 | spacer | 121 | End sleeve | 197 | Round head screw |
| 102 | O-ring (1/16" x 1-1/4" OD) | | | 110 | U-shaped cup | 116 | spacer | 122 | O-ring | 198 | Round head screw |
| 103 | To simplify | 106 | lock washer | 111 | shaft lever | 117 | shim | 123 | screw | 201 | Silencer kit |
| 104 | retainer ring (1-5/32" B/E/ inches) | | | 112 | Washers | 118 | Guide valve stem | 126 | Pipe plug | | |
| 105 | Screw/lock washer | 107 | board | 113 | O-ring | 119 | O-ring | 127 | Pipe joint | | |
| | | 108 | Gaskets (with notches) | 114 | O-ring | 120 | spacer | 128 | Pipe plug | | |

IGR

Pneumatic diaphragm pump series



Performance parameter

| Model | Capacity (m ³ /h) | Head (m) | Exit pressure (kgf/cm ²) | Suckedlift (m) | Max graindia (mm) | Max pressure (cgf/cm ²) | Maxair Consumption (m ³ /min) | Consumption (m ³ /min) | Material | | | |
|--------|------------------------------|----------|--------------------------------------|----------------|-------------------|-------------------------------------|--|-----------------------------------|----------|------------|-------|------------------------|
| | | | | | | | | | ZL104 | 1Cr18Ni9Ti | HT200 | Enhanced polypropylene |
| IGR-25 | 0-7 | 0-70 | 7 | 0-5 | 2.5 | 7 | 1.7 | 0.6 | ★ | ★ | ★ | ★ |
| IGR-40 | 0-15 | 0-70 | 7 | 0-5 | 4.5 | 7 | 1.7 | 0.6 | ★ | ★ | ★ | ★ |
| IGR-50 | 0-25 | 0-70 | 7 | 0-5 | 8 | 7 | 4.9 | 1.7 | ★ | ★ | ★ | ★ |
| IGR-80 | 0-45 | 0-70 | 7 | 0-5 | 10 | 7 | 9.1 | 3 | ★ | ★ | ★ | / |



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