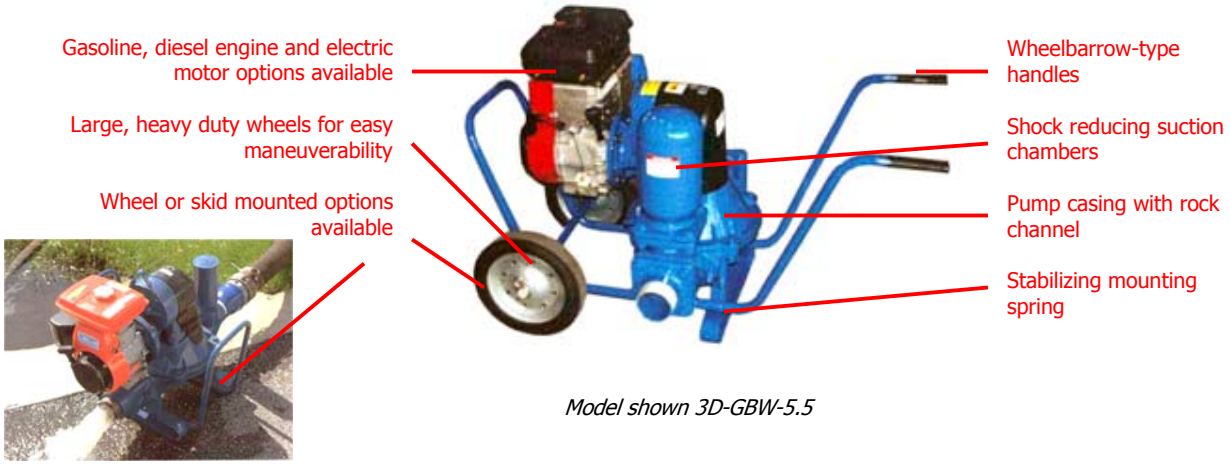
# D SERIES
## SINGLE DIAPHRAGM PUMPS

***Diaphragm Pumps are ideally suited for all sectors of the construction industry as well as for municipal and industrial applications***

Diaphragm pumps are ideally suited for all sectors of the construction industry as well as for municipal and industrial applications where dry priming pumps are required. They are particularly useful for pumping muddy water, sludge or any liquid with a high percentage of solids. One of the best features of the diaphragm pumps is that they can run dry indefinitely without damage.




*Model shown 3D-GBW-5.5*

## FEATURES

- Automatic dry priming
- Quick dry prime from 20 feet
- Self-priming, positive displacement
- Able to run dry indefinitely
- Passage of large solids
- Lightweight rugged construction
- High resistance to abrasive and corrosive liquids
- Wear parts are easily replaced
- Rotating parts do not come in contact with the pumping liquid
- Optional spring-loaded connecting rod to protect against pump casing damage
- Optional stainless steel wear plates and optional ball valves for the suction and discharge are available.
- Long lasting neoprene diaphragms and suction and discharge check valves standard. Other materials are optional
- Various diesel and gasoline engine and electric motor options
- Simple low-cost maintenance
- Economical to operate

## APPLICATIONS

**Construction:** Open pit dewatering; low-volume bypass; cleaning manholes; slurry transfer
**Water Treatment:** Pumping out neutralized sludge; cleaning cesspools/septic tanks
**Industry:** Pumping out sludge; paper mills; food processing; wood pulp; water with wood chips; bilge pumping; dyes; cutting water; circulation; juices; must; wort; wine lees; effluent from washing textiles or fibers

Diaphragm Pumps are capable of quick, dry priming up to 20-feet in a few seconds. They can run dry indefinitely and no rotating parts come in contact with the liquid. There are no problems with mechanical seals or packing since they are not required in a diaphragm pump. Diaphragm Pumps are designed with a solids channel, which can handle liquids containing large solids and stringy, fibrous materials. Lightweight, but abrasion and corrosion resistant aluminum casings are standard. The parts subject to wear and aging, such as rubber diaphragms and rubber check valves, are easily replaceable.



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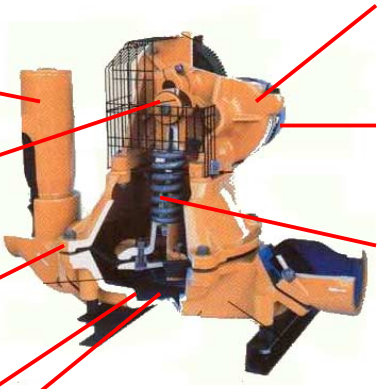
## SPECIAL FEATURES*

Shock reducing chamber to reduce pulsation in the suction line

Optional self-lubricating bearing allows continuous operation without service for 5,000 hours

Wetted parts available in aluminum, cast iron or 316 stainless steel



Oil bath gear box with speed reducer and hardened steel gears

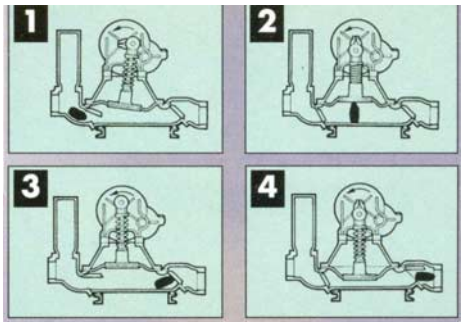
Universal mounting flange adapts to a variety of engines and electric motors

Optional connecting rod with spring to protect against damage due to solids or sedimentation in the pump casing

** Some features not available on all models*

Pump casing with rock channel

Long lasting neoprene diaphragm and valves. Hypalon, nitrile, atoxic rubber, dutral and viton rubber diaphragms and valves are also available




## WORKING PRINCIPLE

(Fig. 1) As the connecting rod moves upward, the diaphragm creates a vacuum inside the pump casing, which causes the suction valve to open and the discharge to close.

(Fig. 2) Fluid begins to fill the pump casing until the connecting rod reaches the top of the stroke.

(Fig. 3) Once the pump casing is full, the connecting rod begins to travel downward.

(Fig. 4) As the diaphragm travels downward, the discharge valve is forced open while the suction valve is closed, preventing fluid from re-entering the suction.

At this point, the fluid in the pump casing is directed out of the discharge of the pump. An oversized solids channel in the bottom of the pump casing allows large solids and high amounts of sediment to pass through the pump without harming the components.

We offer the option of a spring-loaded connecting rod, which protects the pump against solids obstructing the stroke of the connecting rod.

### Advantages of the Spring Loaded Connecting Rod

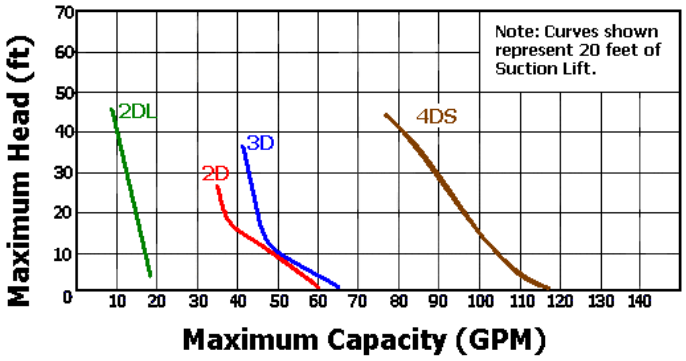
The Spring Loaded Connecting Rod will prolong the life of the pump components when handling high amounts of irregularly shaped objects by absorbing the blow when those objects are encountered. The spring will keep the stress away from the connecting rod and the pump casing.

There is also an oversized channel in the bottom of the pump casing that allows large solids and high amounts of sediment to pass through the pump without harming the other pump components.

## MODEL SPECIFICATIONS

| Unit Model | Size (In.) | Maximum* Capacity (GPM) | Maximum* Head (Ft.) | Maximum Solids (In.) |
|---|---|---|---|---|
| 2DL | 2″ | 30 | 32 | 0.75 |
| 2D | 2″ | 80 | 40 | 2.00 |
| 3D | 3″ | 90 | 50 | 2.00 |
| 4DS | 4″ | 140 | 50 | 2.38 |

* Consult engineering data for exact maximum performance RPM.



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