

Deming[®]

Vertical Turbine Pumps

Custom Manufactured to Meet Your Specific Needs



RUTHMAN
Engineering Pump Solutions™

The Most Versatile Pump Available

More than a century of research, engineering, and manufacturing experience has gone into making the Deming Vertical Turbine Pump your best choice for many pump applications.

Suitable for everything from rain water to hazardous, abrasive, and viscous fluids, the NSF-certified Deming Vertical Turbine Pump can be custom-designed in a wide range of capacities and pressures to match your requirements. By selecting from a large number of design options, our experienced engineers can tailor a pump to best suit your application.

These pumps have solved fluid transfer challenges in a broad range of industries, including steel, metal finishing, chemical, paper, municipal, petroleum, and agriculture.

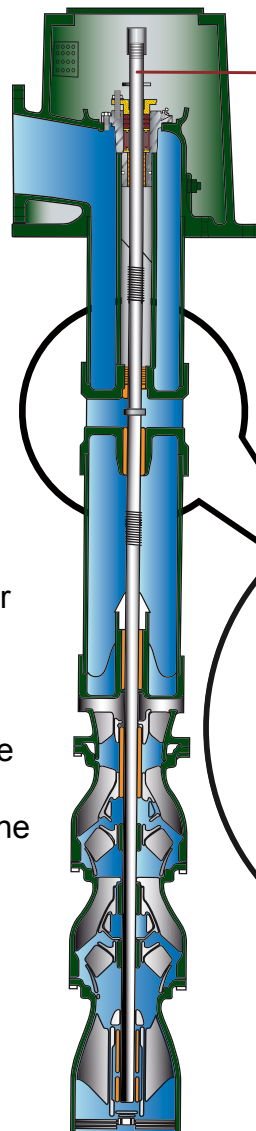
The Self-Seal Advantage

The unique Self-Seal design option eliminates the most common points of failure: the packing or a mechanical seal. This problem-solving sealing method reduces maintenance downtime and eliminates the potential for hazardous leakage and dangerous operating conditions.

How Self-Seal Works

As the pumped solution passes up through the lower column assembly, it enters the Self-Seal column case, located below the discharge head. Bypass Ports allow a small amount of liquid to pass around the shaft as it moves through the lower column case bearing.

Any fluid that flows past the lower bushing in the Self-Seal case is vented back to the tank or well. From the Self-Seal case upward, the shaft is enclosed in a dry tube away from the fluid, making it impossible for leaks to occur at the point the shaft passes out of the discharge head.



Enclosed Shaft

The shaft is enclosed in a tube and sealed with a non-rotating O-ring. The shaft above the column case does not come in contact with the pumped liquid.

Bypass Ports

The Self-Seal column case provides controlled overflow of fluid below the discharge head and back to the tank or well.

Typical Pump Configurations

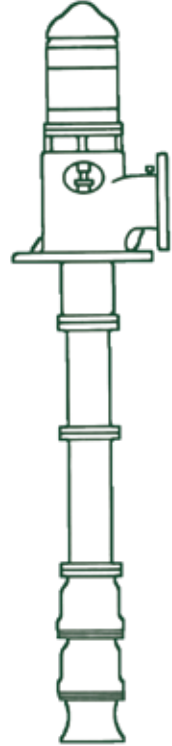
Hollow shaft motor
 Surface discharge head
 Threaded column
 Standard bowl assembly
 Basket strainer



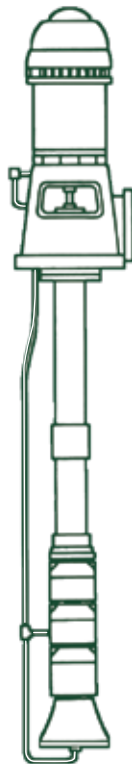
Solid shaft motor
 Motor stand
 Fabricated discharge head
 Flanged column
 Flanged bowls
 Bell mouth suction
 Bolt-on strainer



Hollow shaft motor
 G-head ANSI base-mounting flange
 Self-Seal Design
 Open suction bowl assembly



Hollow shaft motor
 Surface discharge head
 Grease flush construction
 Bell mouth suction



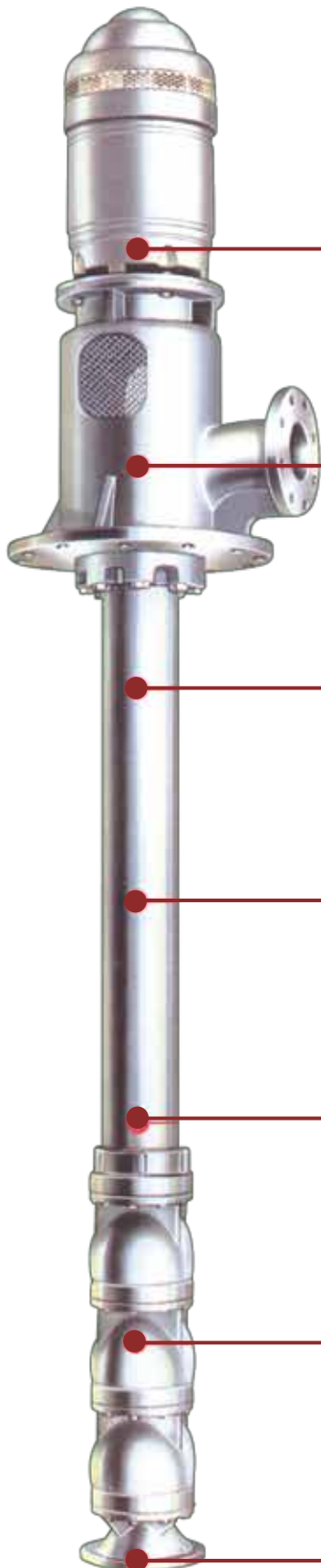
Hollow shaft motor
 T-head
 Flanged column
 Bell mouth suction
 Suction barrel



Solid shaft motor
 Motor stand
 Fabricated discharge head
 Flanged column
 High-pressure cased bowls



A Modular Approach to Pump Construction



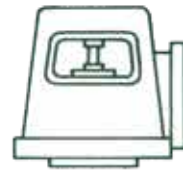
DRIVERS

Hollow shaft motor



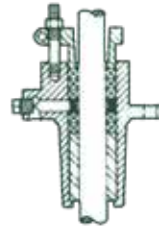
DISCHARGE HEADS

Standard cast iron surface discharge



SEALING METHODS

Standard pressure packing box



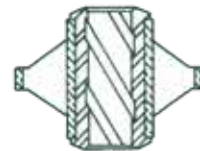
COLUMNS AND SHAFTS

Open lineshaft-product lubricated



BEARING HOUSINGS

Product lubricated with rubber bearing



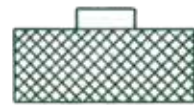
BOWL ASSEMBLIES

Product lubricated



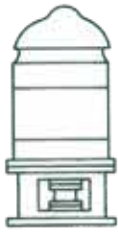
STRAINERS

Standard basket

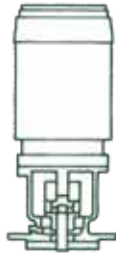


to Meet Your Specific Needs

Solid shaft motor with stand



C-face motor with thrust stand



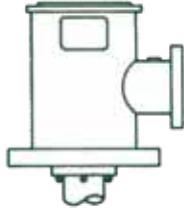
Right angle gear drive



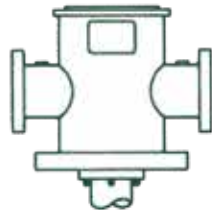
Combination right angle gear drive



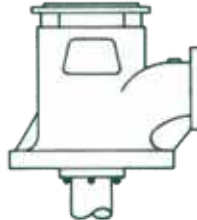
Fabricated steel surface discharge



T-head



G-head ANSI flange base



Motor stand for below grade discharge



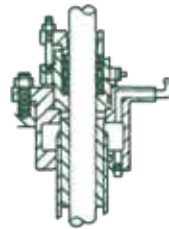
Mechanical seal



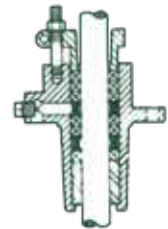
Self-Seal Design



Oil/grease flush construction



High-pressure packing box



Enclosed lineshaft-oil lubricated



Flanged column



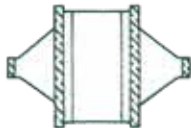
Oil/grease flush construction



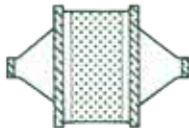
Below grade discharge



Product lubricated with metallic bearing



Product lubricated with Vesconite



Rubber, metallic and Vesconite are the three choices available

Flanged bowls-tapered suction



Flanged bowls-bell mouth suction



Grease flush



High-pressure cased assembly



Standard conical



Flat mesh for bell



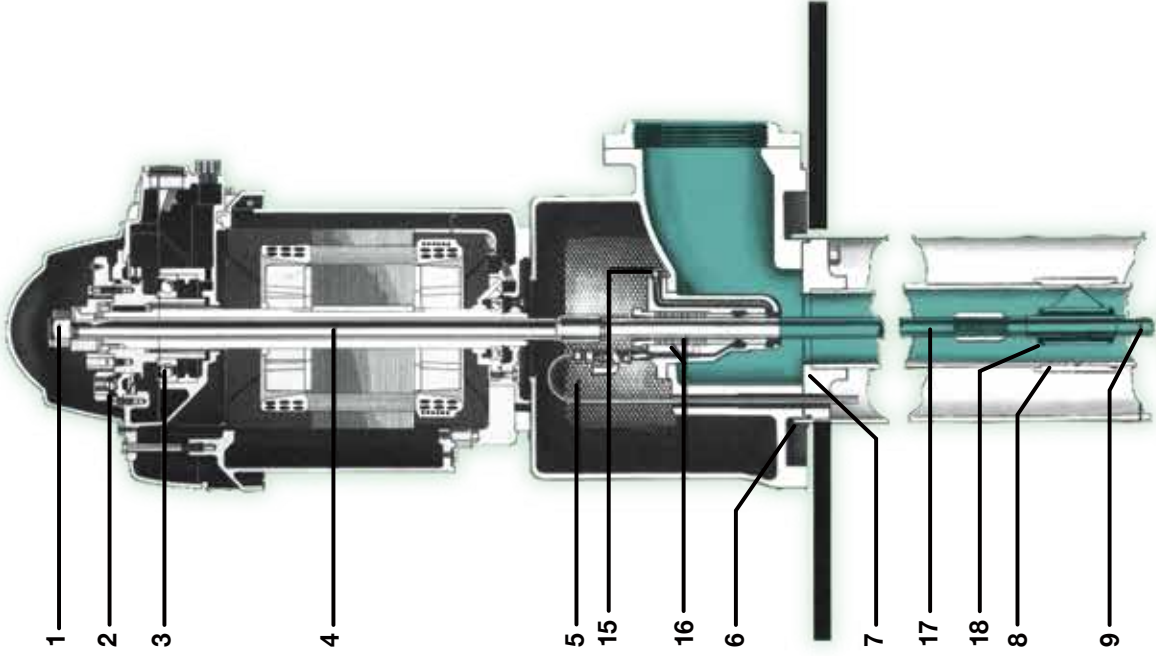
Bolt-on basket for bell



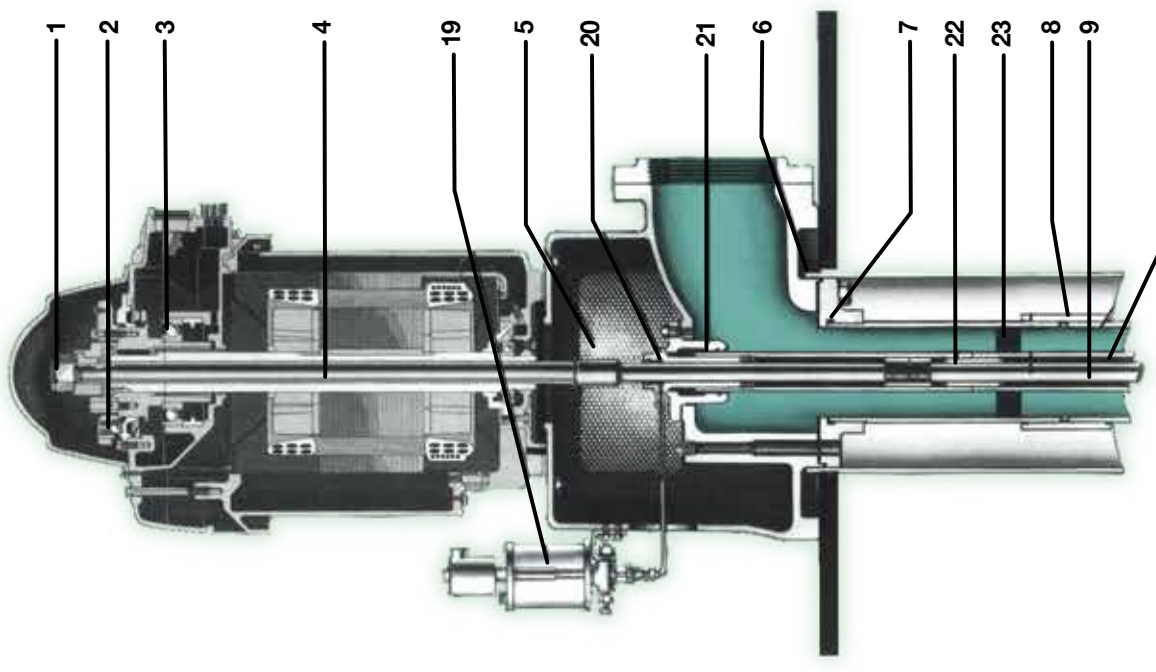
Open construction (no strainer)

The Universal Vertical Turbine Pump

Product Lubricated



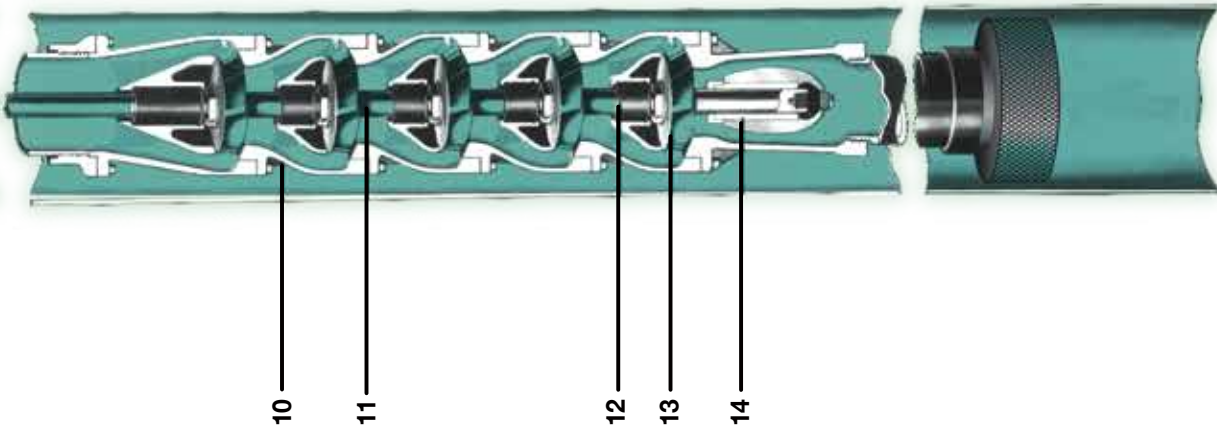
Oil Lubricated



Common Construction

Product and Oil Lubricated

1. **Impellers easily adjustable**—with adjusting nut located at top of motor.
2. **Ratchet prevents backspin**—and avoids damage to pump in case of phase reversal.
3. **Heavy duty thrust bearing**—cooled by air entering motor.
4. **Separate headshaft**—with coupling in pump head, facilitates installation. Permits changing drives without raising pump.
5. **Coupling guard**—supplied as standard option.
6. **Base of head recessed**—permits casing or sleeve to extend above foundation as required by many health departments.
7. **Flanged head construction**—facilitates assembly of column and discharge head. Maintains accurate alignment between motor and column shaft assembly. (Some discharge heads feature threaded column connections. Refer to factory.)
8. **Column couplings**—machined for tight fitting butt joints. (Flanged column available.)
9. **High strength lineshaft**—of heat treated steel, ground, and polished; one-third stronger than ordinary shaft.
10. **Streamlined bowl passageways**—designed to reduce friction and give greater pump efficiency.
11. **Stainless steel impeller shaft**—speci-ally heat treated, ground, and polished for longer life.
12. **Bowl bearings**—bronze on all enclosed impeller pumps; rubber on all semi-enclosed impeller pumps.
13. **Enclosed or Semi-Enclosed impellers**—have completely finished surfaces for maximum efficiency.



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14. Enclosed bronze bearings—in suction bowl, protected with sand cap and packed with non-soluble grease. Semi-enclosed impellers 4" to 10" bowl sizes feature open rubber-bearing construction.

Product Lubricated only

15. Pre-lubrication connection—through stuffing box distributes water around shaft for proper lubrication before start-up.

16. Accessible extra deep stuffing box—with controlled lubrication for long packing life.

17. Stainless steel stuffing box shaft—may be inverted to renew wearing surface.

18. Water lubricated shaft bearings—fluted, resilient rubber shaft bearings are lubricated by water flowing through the pump. Bearings are held in place by a machined bronze bearing retainer secured between two pipe ends.

Oil Lubricated only

19. Automatic lineshaft lubricator—on motor-driven units; opens when pump starts, closes when it stops.

20. Bronze tube tension nut—is easily accessible for placing tube under proper tension; also provides close fitting bearing in pump head.

21. Tubing head adapter with O-ring—assures watertight seal around shaft, enclosing tube.

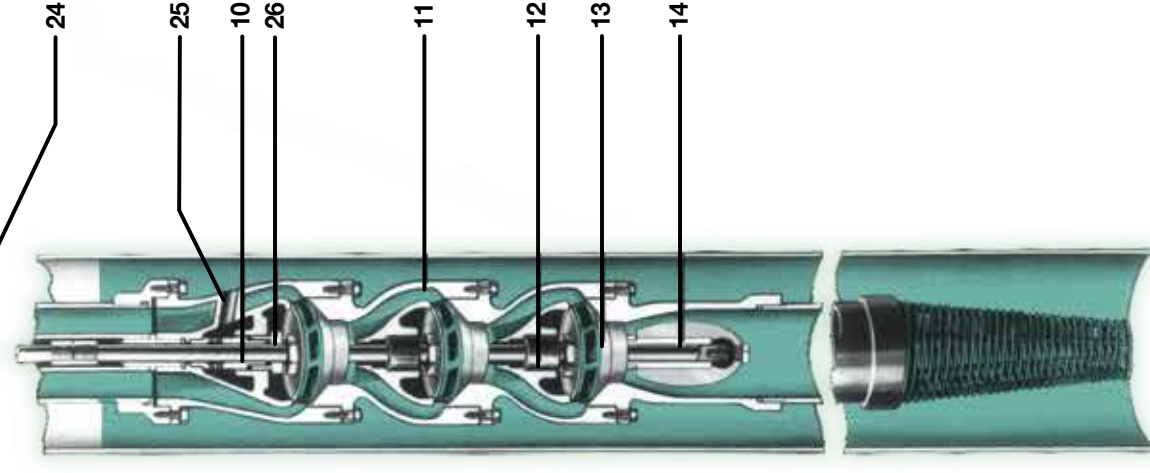
22. Bronze lineshaft bearings—provide accurate alignment for lineshaft and a coupling for enclosure tube. A spiraling internal oil groove permits uniform bearing lubrication and by-pass of oil to bearings below.

23. Enclosure tube stabilizers—reinforced rubber "spiders" are regularly spaced to maintain enclosure-tube alignment.

24. Heavy duty tubular steel shaft enclosure tube—protects lineshaft. Specially machined for accurate bearing alignment.

25. Relief ports in top bowl—prevent water from rising in tube above water level in well.

26. Bearing protecting slinger—prolongs bearing life by preventing entrance of sand into top bowl bearing.



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MANUFACTURED BY

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A RUTHMAN COMPANY

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Ruthman Companies: A family-owned business supplying pumps for over 100 years



Since the early 1900's, when its founder invented the first sealless centrifugal pump, the Ruthman Companies has been family owned and operated. Three generations of Ruthmans have expanded the company's product line from the original Gusher centrifugal coolant pumps to include vertical turbine, gear, and heavy duty slurry pumps, as well as valves and other specialized equipment.

Process Systems, Inc. joined the Ruthman Companies in 2007, with its range of PSI industrial process pumps and Deming Vertical Turbine Pumps. Process Systems' durable and reliable industrial pump line has evolved over half a century of solving real customers' pump challenges, backing up expert engineering with first-in-class service. In 2004, Process Systems acquired manufacturing rights to the Deming Vertical Turbine Pump line. Deming's pump engineering history dates back 140 years; the name is known for its durability, efficiency, and low maintenance. The Deming Vertical Turbine Pump range now offered by Process Systems is one of the most diverse and complete in the world, time tested in the field for municipal, industrial, and agricultural applications.

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