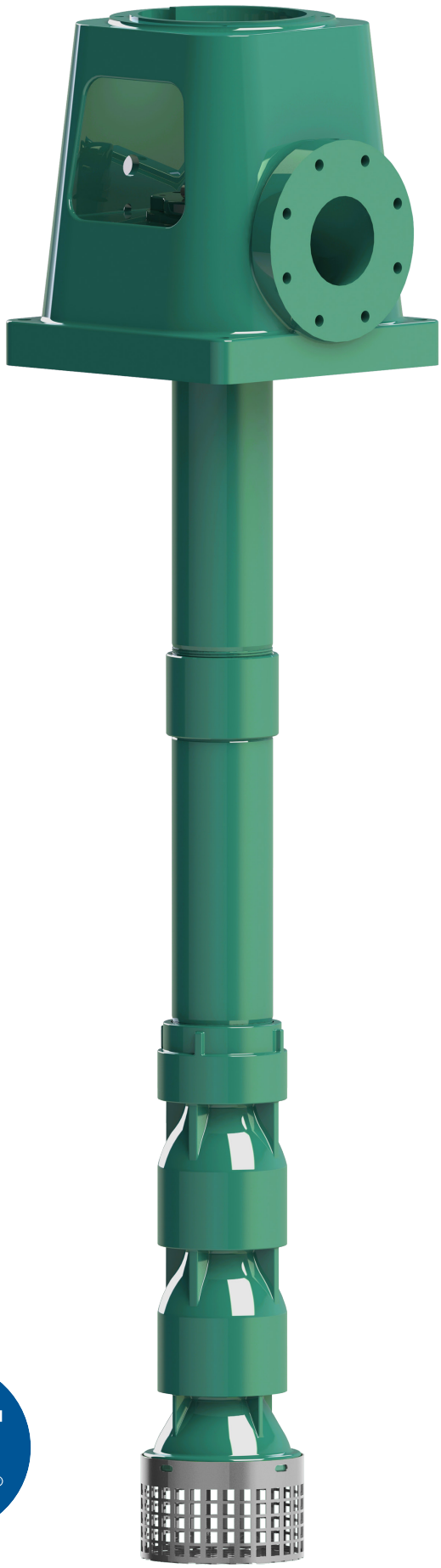
DEMING®
VERTICAL TURBINE PUMPS

Manufactured by PSI
A Ruthman Company



Custom Manufactured to Meet Your Needs

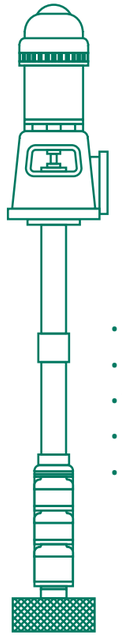
Suitable for everything from rain water to hazardous, abrasive, and viscous fluids, the NSF-certified Deming Vertical Turbine Pump can be custom designed in a wide range of capacities and pressures to match your requirements. By selecting from a large number of design options, our experienced engineers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

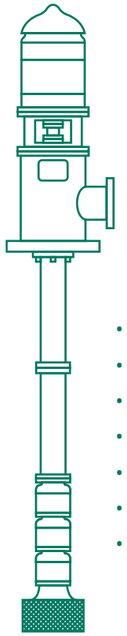
NSF®

23601 Pinewood Street, Warren, MI 48091 | 586.757.5711 | Sales@PSI4Pumps.com | www.PSI4Pumps.com

Typical Pump Configurations

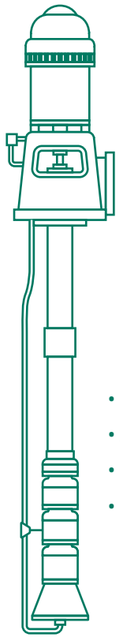


- Hollow shaft motor
- Surface discharge head
- Threaded column
- Standard bowl assembly
- Basket strainer

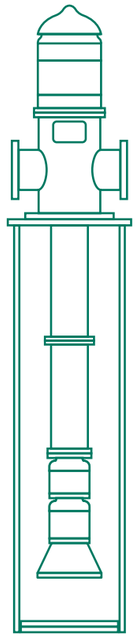


- Solid shaft motor
- Motor stand
- Fabricated discharge head
- Flanged column
- Flanged bowls
- Bell mouth suction
- Bolt-on strainer

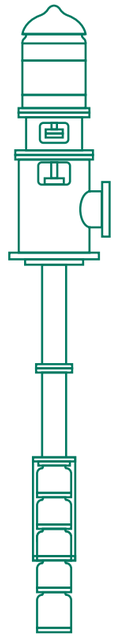
- Hollow shaft motor
- G-head ANSI base-mounting flange
- Self-seal design
- Open suction bowl assembly



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



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



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

Design Option: Self-Seal

Advantages

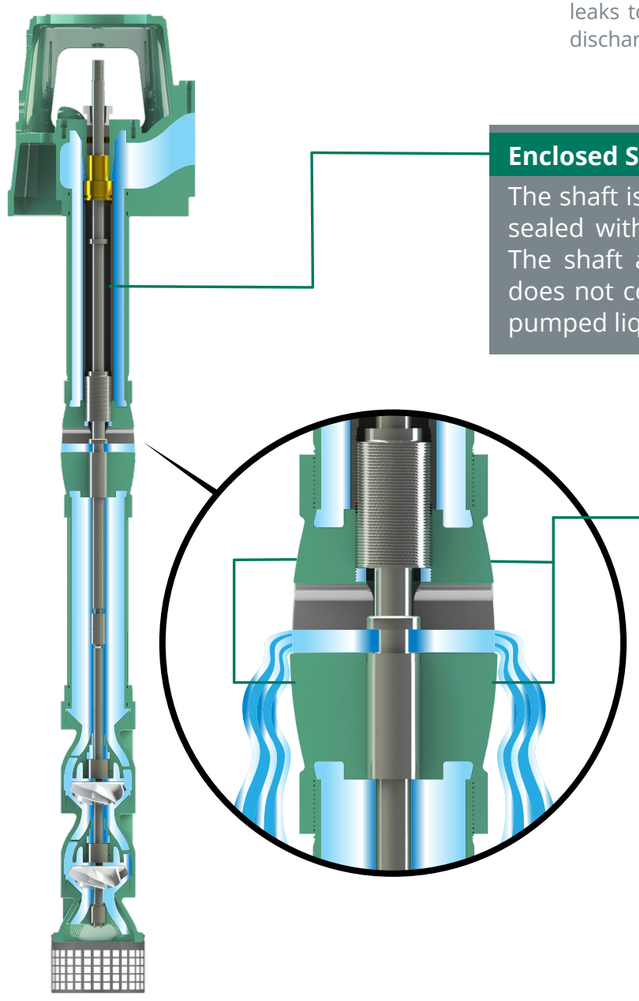
The unique self-seal design option eliminates the most common points of failure: the packing or a mechanical seal. This problem-solving sealing method reduces maintenance downtime and eliminates the potential for hazardous leakage and dangerous operating conditions.

How it Works

The shaft above the self-seal case is enclosed in a tube isolated from the fluid. A non-rotating O-ring seals this shaft-enclosing tube. As the pumped solution passes up through the lower column assembly, it enters the self-seal column case, located below the discharge head. The self-seal column case throttles the fluid pressure, diverting liquid away from the shaft-enclosing tube.

A minimal amount of fluid flows past the lower bushing into the self-seal case. A stainless steel slinger in the self-seal column case directs this fluid to the pump's bypass ports. 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

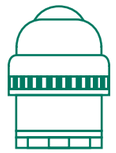
The shaft is enclosed in a tube and sealed with a non-rotating O-ring. The shaft above the column case does not come in contact with the pumped liquid.

Bypass Ports

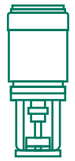
The self-seal column case provides controlled overflow of fluid below the discharge head and back to the tank or well.

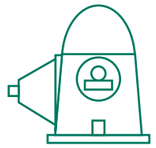
Modular Pump Construction Options for Your Specific Application

1. DRIVERS


Hollow shaft motor


Solid shaft motor with stand

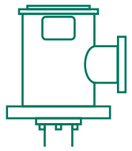

C-face motor with thrust stand

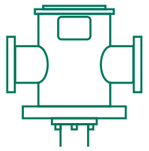

Right angle gear drive

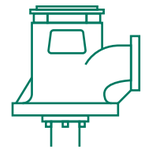

Combination right angle gear drive

2. DISCHARGE HEADS


Standard cast iron surface discharge

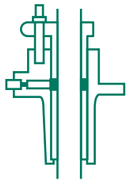

Fabricated steel surface discharge

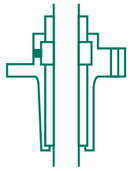

T-head discharge


G-head ANSI flange base discharge

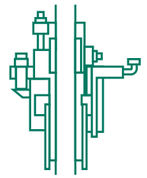

Motor stand-below grade discharge

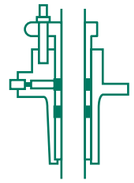
3. SEALING METHODS


Standard pressure packing box


Mechanical seal


Self-Seal Design


Oil/grease flush construction


High-pressure packing box

4. COLUMNS & SHAFTS


Open line shaft product lubricated

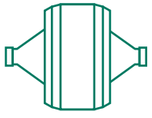

Enclosed line shaft oil lubricated

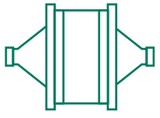

Flanged column


Oil/grease flush construction


Below grade discharge

5. BEARING HOUSINGS


Rubber bearing product lubricated


Metallic bearing product lubricated

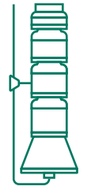

Vesconite product lubricated

6. BOWL ASSEMBLIES


Product lubricated

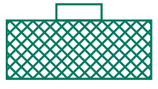

Flanged bowls tapered suction

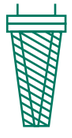

Flanged bowls bell mouth suction

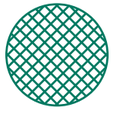

Grease flush

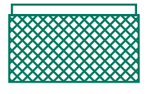

High-pressure cased assembly

7. STRAINERS


Standard basket

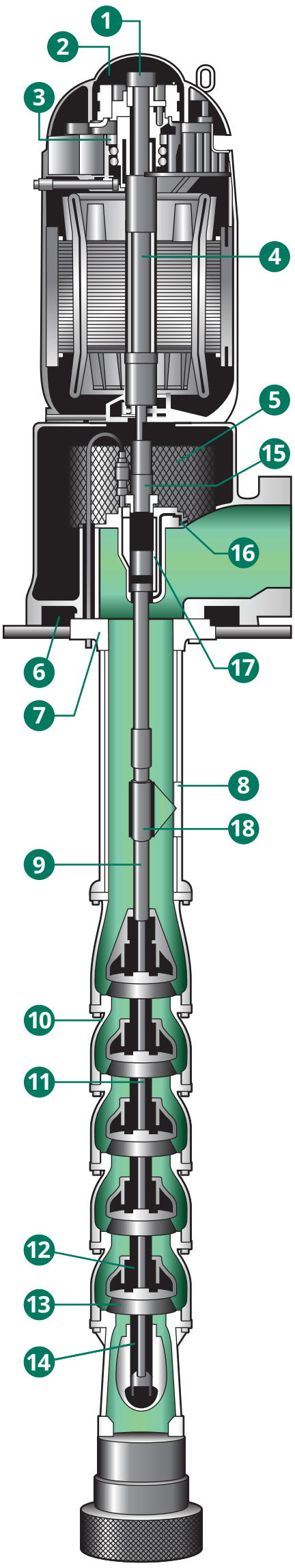

Standard cone


Flat mesh for bell


Bolt-on basket for bell

Open construction (no strainer)

The Universal Vertical Turbine Pump



Product Lubricated

Common Construction

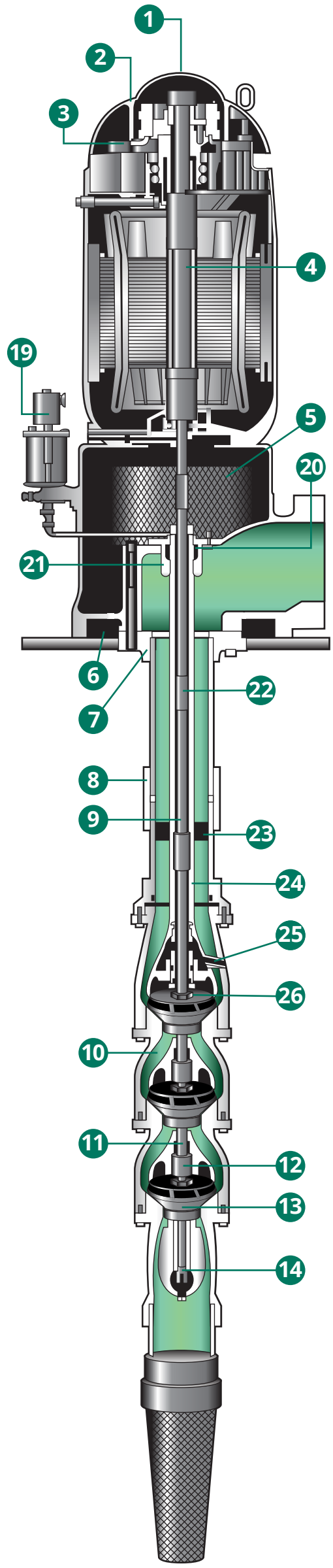
1. Adjusting nut located at top of motor—makes impeller adjustment easy
2. Ratchet prevents backspin—and avoids damage to pump in case of phase reversal
3. Heavy duty thrust bearing—cooled by air entering motor
4. Separate motor shaft with coupling in head shaft—facilitates installation; permits changing drives without raising pump
5. Coupling guard—supplied as standard feature
6. Recessed head base—permits casing or sleeve to extend above foundation as required by many health departments
7. Flanged head construction—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 line shaft—heat treated, ground and polished stainless steel; one-third stronger than ordinary shaft
10. Streamlined bowl passageways—reduce friction and increase pump efficiency
11. Stainless steel impeller shaft—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-open impellers—surfaces completely finished to maximize efficiency
14. Enclosed bronze bearings—in suction bowl, protected with sand cap and packed with non-soluble grease (semi-open impellers in 4-10" bowl sizes feature open rubber-bearing construction)

Product Lubricated Only

15. Stainless steel head shaft—may be inverted to renew wearing surface
16. Pre-lubrication connection—through stuffing box distributes water around shaft for proper lubrication before start up
17. Accessible extra deep stuffing box—controlled lubrication extends packing life
18. Water lubricated shaft bearings—fluted, resilient rubber bearings 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 line shaft lubricator—on motor-driven units; opens when pump starts, closes when it stops
20. Bronze tube tension nut—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 and enclosing tube
22. Bronze line shaft bearings—maintain accurate alignment for line shaft and a coupling for enclosure tube (spiraling internal oil groove lubricates uniformly and passes oil to bearings below)
23. Enclosure tube stabilizers—regularly spaced reinforced rubber "spiders" maintain enclosure tube alignment
24. Heavy duty steel shaft enclosure tube—protects line shaft; 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—blocks sand from entering top bowl bearing to prolong bearing life



Oil Lubricated

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 relief valves.

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.

PROCESS SYSTEMS, Inc.

Manufacturer of Deming® VTP

PROCESS SYSTEMS INC. LOCATIONS

Headquarters
23601 Pinewood Street
Warren, MI 48091
Phone: 586.757.5711
Fax: 586.758.6996
Email: Sales@PSI4Pumps.com

Midwest Service
485 N. State Route 341
South Mellott, IN 47958
Phone: 765.295.2206
Fax: 765.295.2343
Email: Sales@PSI4Pumps.com

RUTHMAN COMPANIES MANUFACTURING DIVISIONS

Fulflo Hydraulic Valves
www.Fulflo.com
Blanchester, Ohio

Gusher Pumps
www.GusherPumps.com

Gusher Pumps Headquarters
Williamstown, Kentucky

Gusher Pumps Manufacturing
Dry Ridge, Kentucky

Gusher Pumps Training Facility
Dry Ridge, Kentucky

Gusher Pumps Indiana
New Castle, Indiana

Nagle Pumps
www.NaglePumps.com
Chicago Heights, Illinois

RAE Pumps
www.RAEPumps.com
Cincinnati, Ohio

Ruthman Pumps & Service
www.RuthmanCompanies.com
Cincinnati, Ohio

RUTHMAN COMPANIES HEADQUARTERS

7236 Tylers Corner Drive
West Chester, OH 45069
Phone: 513.559.1901
Fax: 513.559.0035
www.RuthmanCcompanies.com

RUTHMAN COMPANIES GLOBAL DIVISIONS

Ruthmann Pumpen, LLC
www.RuthmannPumpen.de
Baesweiler, Germany

Gusher Pumps, Shanghai
www.Gusher.com
Shanghai, China

RUTHMAN
Engineering Pump Solutions™

RC19-016/03-22