

VANTON

PREFERRED MANUFACTURER We pioneered the thermoplastic pump, then we perfected it.

In 1950, Vanton developed a revolutionary all-plastic pump for use in conjunction with the first heart-lung device. The design limited fluid contact to only two nonmetallic parts: a plastic body block and a flexible liner. This was the birth of our Flex-i-liner® rotary pump. Its self-priming sealless design made it an industry standard for the handling of corrosive, abrasive and viscous fluids as well as those that must be transferred without contaminating the product. We then developed horizontal and vertical centrifugal pumps designed to take advantage of the superior chemical inertness, abrasion resistance, low weight and moldability of thermoplastics. Vanton now offers the most comprehensive line of thermoplastic pumps in the industry.

We put our pumps through the paces to make sure they live up to expectations. When they leave our plant, we know they are best by test, not by guess. To the best of our knowledge, no other pump manufacturer puts every pump through such a complete battery of hydraulic, vibration and electrical tests.

We subject our pumps to the following tests as necessary:

- Hydrostatic test for leak tightness.
- 2 Operational check of pump performance to specified conditions of service.
- 3 Vibration evaluation.
- 4 Noise level analysis.
- 5 Measurement of voltage, amperage, kilowatts and power factor at varying outputs.

Don't be misled by the apparent simplicity of the design of Vanton pumps. Uncomplicated construction makes our pumps more cost effective and easier to maintain. Here's why:





The simplicity of our designs assures long, trouble-free operation. Since each pump is individually tested and its characteristics permanently recorded for instant retrieval, spare parts can be supplied accurately, rapidly and economically, regardless of the age, or model of the pump.



PUMPING THROUGH THE PACES WE'RE THE BEST BY TEST

ENGINEERED THERMOPLASTICS For handling corrosive, abrasive,

hazardous, and ultrapure fluids.

Thermoplastic components are preferred over stainless steel, exotic alloys, FRP solid materials or linings because they offer broader use for handling acids, caustics, solvents, chlorides, halogens and other corrosive, abrasive or hazardous fluids, even mixed or unknown liquids, plant effluents and waste streams. Their chemical inertness assures purity when handling ultrapure water and other fluids required by chemical and pharmaceutical manufacturers, printed circuit board fabricators, utilities and other companies whose processing operations cannot tolerate contamination.



MATERIALS OF CONSTRUCTION AND PROPERTIES

PVC Polyvinyl Chloride

Maximum temperature 60°C - Specific gravity 1.30 Weightloss (milligrams) Taber, 1000 cycles 12-20

CPVC Chlorinated Polyvinyl Chloride Maximum temperature **99°C** - Specific gravity **1.49** Weightloss (milligrams) Taber, 1000 cycles 20

PE Polythylene Maximum temperature 93°C - Specific gravity .92-.94 Weightloss (milligrams) Taber, 1000 cycles 5

PP Polypropylene

Maximum temperature 85°C - Specific gravity 0.94 Weightloss (milligrams) Taber, 1000 cycles 15-20

PVDF Polyvinylidene fluoride Maximum temperature **135°C** - Specific gravity **1.75** Weightloss (milligrams) Taber, 1000 cycles 5-10

ETCFE Ethylene chlorotrifluorethylene Maximum temperature 149°C - Specific gravity 1.75 Weightloss (milligrams) Taber, 1000 cycles 5-10

PTFE Polytetrafluorethylene Maximum temperature 260°C - Specific gravity 2.14-2.20 Weightloss (milligrams) Taber, 1000 cycles 500-1000

FRP fibreglass reinforced plastic Maximum temperature 121°C - Specific gravity 3.4-5.0 Weightloss (milligrams) Taber, 1000 cycles 388-520

SS Stainless steel type 304/316 Maximum temperature NA - Specific gravity 7.9 Weightloss (milligrams) Taber, 1000 cycles 50

Vanton are highly experienced in the application of thermoplastic pumps. Contact us for the latest edition of our Technical Library Index of published data on specific applications.

PUMP UP THE ACTION WITH CHEM-GARD®

Armoured construction, moulded plastic casing and impeller and easy access seal with a sliding bar pedestal design to simplify maintenance.

<image>

Horizontal centrifugal pumps

These heavy-duty and rugged horizontal centrifugal pumps are designed, engineered and constructed to handle corrosive, abrasive and other aggressive fluids, as well as those liquids which must remain free of metallic contamination. CHEM-GARD[®] pumps are available in a wide selection of thermoplastics and in ANSI/DIN, self-priming, closecoupled and integral pump/shaft motor designs.

CGV vortex pumps handle solids-laden liquids and slurries - 01

All Vanton CHEM-GARD pumps are available with recessed, dynamically balanced impellers, custom sized and trimmed to suit the shapes, dimensions and physical properties of included solids. CGV pumps are rated for flows to g00gpm (205m³⁷/ hr) at heads to 240ft (73m) with performance for individual applications dependent on the characteristics of the fluid handled. They can be furnished in the full line of thermoplastics and are designed for clog-free pumping of fluids with soft, hard or stringy materials—even with solids to 3 inches (75mm) in diameter.

PG PRIME-GARD® pump is self-priming - 02

This heavy-duty, self-priming, centrifugal pump handles flows to 175gpm (40m³/ hr), making it ideal for acid buggies, sump and tank evacuation, and emergency overload pumping. It is often specified for in-line pump service where headroom prevents the use of vertical pumps, and other applications where self-priming from depths to 15ft (4.6m) may be required. These pumps are available in the full line of homogeneous thermoplastics, and the pedestals are interchangeable with all standard CHEM-GARD models.

CG thermoplastic centrifugal pump is metal armored - 03

use at temperatures to 275°F (135°C).

The Vanton CHEM-GARD CG design was the first horizontal centrifugal pump engineered from inception to utilize the unique characteristics of thermoplastics. It is not a metal pump made of nonmetallics. Design features include molded plastic components, tangential discharge wide open seal area and retractable front bearing to simplify maintenance and accommodate all popular mechanical seals.

Their unique sliding front bearing design asssures minimum

shaft overhang, simplifies maintenance, and allows all types

of mechanical seals to be utilized. Vanton's unique reverse-

mounted seal arrangement avoids metal contact with fluid

and eliminates need for exotic metal seals. Rated for flows

to 1450gpm (330m³/hr), heads to 400ft (122 meters), and for

CGM sealless ANSI centrifugals feature magnetic drive - 04

Vanton magnetically driven ANSI pumps are ideal for handling corrosive, and hazardous fluids. They are constructed with a dual nonmetallic containment can assembly: PTFE for the inner can in contact with the process liquid, backed by a rugged FRP outer can. This innovative design minimizes troublesome eddy currents. The pump conforms to Hydraulic Institute Standards and offers an air cooled, dry running, tertiary seal. Flows to 450gpm (to2m³/hr), heads to 280ft (85m).

CGA centrifugals meet ANSI for process pumps - 05

These end suction pumps combine centerline discharge and back pullout construction with the CHEM-GARD wide open seal, sliding bar pedestal design. They meet ANSI B-731 and international process pump standards. Metal armoring of the plastic casing and flanges enables these thermoplastic pumps to handle the same nozzle loadings as metal pumps. Centrifugal pump showing rugged, armoured construction, molded plastic casing and impellar and easy seal with sliding bar pedestal design to simplify maintenance. Standard construction materials include PVC, CPVC, PP, PVDF and ECTFE



PUMPING **DEEP DOWN AND DIRTY** WITH SUMP-GARD®

For the transfer and treatment of process fluids, plant effluents and industrial or municipal water and waste streams.

Vertical centrifugal pumps

Every wetted component in a Vanton SUMP-GARD® vertical pump, including the heavy-wall shaft sleeve, is offered in PVC, CPVC, PP, PVDF, and other nonmetallic materials compatible with the pumped fluid. This eliminates corrosion and minimizes abrasion, resulting in lower maintenance, longer pump life, and contamination-free products. SG pumps are configured for sumps to 50ft. (15m)

SGW vertical pump for semiconductor and OEM applications - 01

The SGW centrifugal pump is a very compact, low-cost unit engineered for use with standard C-face motors, and designed for simple washdown of the motor area without contaminating the pumped product. It is ideal for OEM applications due to high reliability, long service life and low maintenance. It is the preferred choice for computer chip and wafer production, printed circuit board fabrication and other processes involving ultrapure water and chemicals. Rated for flows to 220gpm (50m³/hr) at heads to 125ft (38m), lengths to 22 inches (.56 m).

SGV vortex pump head for sludges, slurries and solids laden fluids - 02

Vanton SUMP-GARD pumps with recessed, dynamically balanced clog-free impellers are suitable for a wide range of sludges and slurries, and fluids with stringy materials or solids to 3 inches (75mm) in diameter. Wetted components of homogeneous thermoplastics eliminate corrosion and contamination, and minimize abrasion. SGV pumps are rated for flows to 900gpm (205m³/hr) at heads to 240ft (73m), with actual performance determined by the characteristics of the fluid being pumped.

SG SUMP-GARD - 03

Showing rugged, ribbed column construction, molded csaing and impellar,



deep, and handle flows to 1450gpm (330 m³/hr), heads to 245ft. (85m) and temperatures to 275°F (135°C). SUMP-GARD pumps are ideal for the transfer and treatment of process fluids, plant effluents and industrial or municipal water and waste streams. They are available with vortex pump heads to pass sludges, slurries and stringy materials as well as fluids with solids to 3 inches (75mm) in diameter.

SGK cantilevered bearingless pump has dry run capability - 04

Vanton SGK cantilevered sump pumps feature a large diameter, plastic sleeved, alloy steel shaft that eliminates the need for immersed bearings or bushings, allowing rundry operation for extended periods. Rugged epoxy-coated cast iron motor bracket accommodates NEMA, IEC, and standard European motors. Lengths to six feet (2m) (deeper with tailpipe), flows to 1000 gpm (227m³/hr) at heads to 210ft (64m).

SGL "Giraffe" design overcomes depth and headroom restrictions - 04

The patented construction of these thermoplastic sump pumps keeps all wetted components, including the segmented shaft sections and couplings, isolated from fluid contact. It simplifies and reduces costs associated with shipping, installation, and maintenance. In addition, it makes lengths to 50ft (15m) practical, and allows installation in areas with limited headroom. The pumps handle flows to 1450gpm (330m³/hr) against heads to 245ft (85m), and are available in the same choice of materials as standard SG pumps.



THINK OUTSIDE OF THE BOX

Sealess, self priming rotary pumps for clear, aggressive liquids, vacuum service and gas transfer.

Sealess, self-priming rotary pumps

Vanton FLEX-I-LINER[®] peristaltic type rotary pumps transfer sample or meter acids, caustics, solvents, salts, chlorides and ultrapure chemicals - even viscous fluids to 6000 SSU (1300 centistokes) and slurries containing soft solids and abrasives. They are suitable for clear, aggressive liquids as well as for vacuum service and gas transfer. Gentle action permits the pumping of latex emulsions and other shear sensitive liquids. These sealless, self-priming pumps operate in either direction,

XB & CC models satisfy laboratory, production and OEM applications - 01

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FLEX-I-LINER pumps are available close-coupled to an electric motor, or pedestal mounted with electric motor drive or gasoline engine, as well as air powered when required for handling volatile fluids. For metering with ±5 percent accuracy, variable speed motors or belt drives may be used. Models may be hand carried, installed on casters, or wheel-mounted on mobile equipment for portability.

Air-driven plastic pump handles fluids, gases - 02

For pumping chemicals and gases where safety requirements prohibit the use of electric power, or in remote areas where electric power is not available, FLEX-I-LINER pumps can be supplied with rotary vane air motors which develop 2000rpm on gopsi (620kPa). These motors can be furnished in models for clockwise rotation, or reversible operation to change flow direction. Control of the air motor drive offers a convenient means for varying flow rates within ±5 percent.

Sanitary, sealless, metering pump has flame polished body - 03

With no internal crevices, dead spots, threads, seals, or bearings, this FLEX-I-LINER self-priming pump is ideal for sanitary metering of pharmaceuticals, foods, and other contamination-sensitive products. The body block in the unit illustrated is molded of UHMW polyethylene with flame polished interior surfaces, and spinwelded suction and discharge quick-disconnect fittings. The rugged flexible liner is molded of food grade elastomers. Metal never touches fluid.





wet or dry, in any position. Unique design eliminates shaft seals, stuffing boxes and other potential sources of leakage. Only two non-metallic parts contact fluid - the rugged body block and durable elastomeric flexible liner. Maintenance is easy, no special tools are required. Flows from .33gpm (1.26lpm) to 40gpm (gm^3/hr) at pressures to 45psig (310 kPa). Temperatures to 250°F (121°C).

Dosing is automatic, reliable with variable speed pump - 04

Variable speed FLEX-I-LINER pumps offer automatic dosing capability with dependable accuracy. A sensor immersed in the fluid being treated continuously relays data on pH, conductivity, or other variables, to a controller which adjusts pump motor speed and dosage rate. The design simplicity reduces the cost, maintenance, downtime, and complexity associated with dosing and metering applications.

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Duplex configuration features high capacity, smooth operation - 05

"Duplex" FLEX-I-LINER pumps offer 70 percent higher flows than "Simplex" configurations while minimizing vibration at higher pressures. One motor/ gearbox drives two opposing eccentric shafts oriented 180° out of phase/rotation, cancelling pumping pulsations generated within each fluid cavity. Manifolds provide common suction and discharge connections. Duplex systems are available in the same thermoplastic and elastomeric materials as single-stage units.

Drum pump runs dry, selfprimes, cuts maintenance - 06

Ideally suited to evacuate drums, the FLEX-I-LINER pump is selfpriming, can run dry for extended periods, and is simple to maintain. It also runs slowly—1750 versus 5000rpm for typical drum pumps—and offers greater safety and convenience in a diversity of situations. Compact in size with integral handle, it fits neatly on drum lids without hazardous protrusions, and has sufficient lift characteristics to operate from the floor, skid or stand.

Close-coupled Flex-I-Liner - 07

Portable model with totally enclosed electric motor. Pumping is accomplished by a rotor mounted on an electric shaft rotating within a flexible liner. This creates a squeegee action on the fluid which is trapped between the outer surface of the liner and the inner wall of the pump body. Body blocks are availbel in polypropylene, UHMW polyethylene and Tefton. Flexible liners can be furnished in natural rubber, Neoprene, Buna N, Hypalon, Viton and Nordel.



PUMP IT AND TANK IT WITH PUMP/TANK

Vanton pump/tank systems the ideal choice for collecting, transferring and treating process chemicals as well as mixed and unkwown wastes.

Integrated, engineered systems

Vanton offers custom and standard, square, rectangular, and cylindrical nonmetallic pump/tank systems in a wide choice of thermoplastics, thermosets, and plastic lined metal. Capacities to 5000 gallons (19m³). Double wall tanks with built-in leak detection, skid-mounted and mobile designs, and floating pontoon configurations can be furnished with the appropriate thermoplastic pumps, and all system control and monitoring devices

Cylindrical pump/tanks with capacities to 2500 gallons - 01

Cylindrical tanks of PP, PE, PVC, PVDF, and other thermoplastics are available in capacities to 2500 gallons (9,5m³). The system shown is equipped with a stainless steel stand, rising-rod level control, and a vertical SUMP-GARD® SG thermoplastic pump. The cover plate is sealed with an EPDM gasket, and the pump is fitted with a FUMEGARD™ vapor seal to protect external bearings and motor from corrosion.

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Mobile pump/tank system handles diversity of wastes - 02

Vanton mobile pump/tank systems handle a broad range of corrosive and abrasive wastes from multiple sites. This system consists of a 500-gallon (2m³) cylindrical tank of polypropylene, and pedestal-mounted FLEX-I-LINER® sealless, rotary peristaltic pump rated for 20gpm (4,5m³/hr). All wetted components of the system are made of chemically inert thermoplastics or elastomers that provide resistance to a wide range of corrosive, abrasive, hazardous, and toxic wastes.

Duplex pump/tank system handles corrosive wastes - 03

For handling corrosive chromic acid and other plating chemicals Vanton custom engineered this "Duplex" pump/tank system. All pumps, tanks, valves, level controls, and associated piping are skid-mounted, ready for operation upon connection to external piping and wiring. Two PVC SUMP-GARD vertical centrifugal pumps handle flows to 1200gpm (270m³/hr), heads to 180ft (55m), and temperatures to 140°F (60°C).



including sensors, alarms, valves, actuators, and fully instrumented control panels. All wetted components are of homogeneous thermoplastics or other nonmetallics, all of which resist a wide range of corrosive chemicals, making Vanton pump/ tank systems the ideal choice for collecting, transferring and treating process chemicals as well as mixed and unknown wastes.

Double wall tanks provide back-up protection against leakage - 04

Collecting hazardous wastes often requires the added measure of leak protection afforded by double-wall tanks. Primary and secondary tanks are sized and blocked to provide ample void space between tanks to contain leakage. Sensors positioned between walls are linked to a controller which activates visual and audible alarms. These mobile systems are equipped with Vanton SG polypropylene pumps and FlexPlug® valves to provide safe, efficient handling of corrosive wastes.

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Custom engineered, nonmetallic pump/tank systems continuously adjust

and control the pH of corrosive process chemicals and plant wastes - 05 This fully integrated, automatic system is designed to neutralize acids and alkalies by monitoring pH and controlling the addition of sodium hydroxide, hydrochloric acid, or other neutralizing agents. A PLC (programmable logic controller) linked to a pH level sensor controls variable speed Vanton pumps which meter the neutralizing agents. In closedloop recirculation mode, one or more SUMP-GARD vertical centrifugal pumps create the turbulence needed to mix the solution and prevent the settling of solids. Once the tank is filled, automatically actuated thermoplastic valves open the circulation loop to discharge the fluid. All wetted system components are furnished in homogeneous thermoplastics compatible with the fluids to be handled, eliminating corrosion and minimizing maintenance. Vanton user-friendly, selfcontained neutralization systems simplify compliance with National Pollutant Discharge Elimination System (NPDES).

Duplex pump/tank system - 06

Congigured with two SUMP-GARD SG Series vertical pumps, rising rod float controls, instrumentation and control panel to customer specifications.







PIONEERING WORLD LEADER IN ENGINEERED THERMOPLASTIC PUMPS

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