VERDER

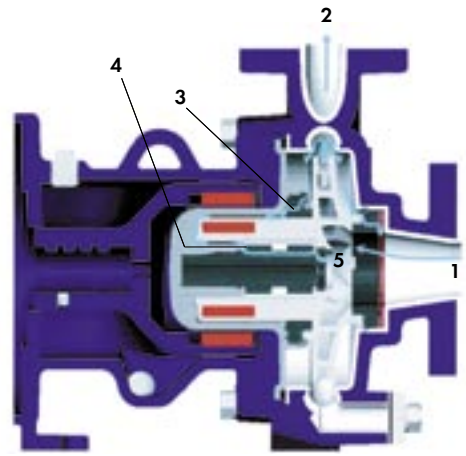
Solutions in Pumping Technology

VERDERMAG

Any mag drive you want, we got it....
The Verdermag TB and U Series

As a result of thorough research and cooperation with the best technical designers Verder can now present you the newest mag drive series, with thrust balancing (TB-series) and universal purpose pumps (U-series). The patented Thrust Balancing Design eliminates axial thrust bearings and provides the basis for a controlled internal environment. This design minimizes the issue of secundary containment by providing secondary bearings.

Working principle



The single, enclosed impeller/magnet assembly is free to rotate and slide on the central cantilevered shaft. The main flow of liquid enters the impeller (1) and is pressurized and then expelled into the volute (2) and out the discharge. A small portion of the flow passes behind the impeller and through the back wear ring clearance (3) and than into the balance chamber. This liquid than flows through, past the bushings (4) to exit at the valve (5). If the impeller moves forward, the valves is opened to a greater degree and the balance chamber pressure is reduced. This causes the impeller to react with a net force towards the motor. However, the valve is now closing and the balance chamber pressure increasing. This moves the impeller towards the suction. The net result is a very stable axial position for the impeller. There are no axial bearings and the radial bearings always operate in a pressurized fluid environment.

Features and benefits

- Suitable for volatile liquids using non-metallic mag drive technology
- Thrust balanced impeller; no axial bearing problems during low suction operation even with severe cavitation or entrained air in the fluid.
- Increased pump reliability and pump life because of balanced impeller.
- Standard SiC replaceable wear parts
- Particles cannot enter containment shell of inner magnet gap.
- $NPSH_r$ is equal to standard sealed pumps
- BEP's are equal to standard sealed pumps
- One bolt size only – simplifies maintenance
- Wear rings work as secondary bearing to protect impeller/inner magnet assembly
- Very good price-quality combination

Models

- Model TB

Model TB offers with 3 impeller sizes and in total 14 suction/discharge configurations a tremendous flow range to meet with all your requirements. With SiC as standard material, and patented trust balancing and wear rings that work as a secondary bearing, these series is an advanced mag drive pump series for all heavy duty pump applications for best economic prices.

- Model U

Engineered with the same robust constructions as the TB series these pumps are perfect for low flow chemical transfer, scrubber applications and high purity chemical services. Pure Teflon PFA or Carbon inforced Tefzel combined with SiC or Carbon Graphite offer best universal chemical resistance at the dirtiest or most pure applications.

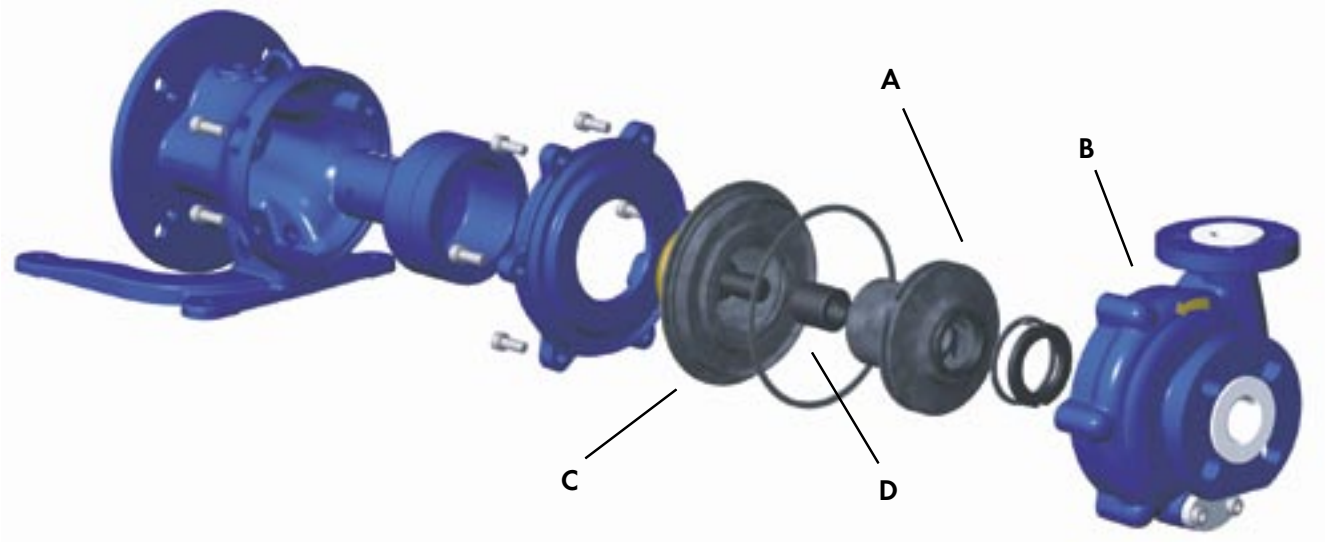
Technical specifications

	TB	U
Flow range	0,3 – 300 m³/h	0.1 – 85 m³/h
Head	up to 110 m	up to 40 m
Temperature	-29°C to +120 °C	-29°C to +120 °C
Operating pressure	21 bar	21 bar
Power supply	up to 45 kW	up to 7.5 kW

Application areas

- Chemical processing
- Metal plating
- Parts washing
- Circuit boards
- Photo processing
- Pharmaceuticals
- Food processing
- Wet scrubbers
- Semi Conductor

Pump Construction



A = Impeller magnet assembly
B = Casing
C = Containment shell assembly
D = Radial bearing

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10-02-05-UK Rev.01