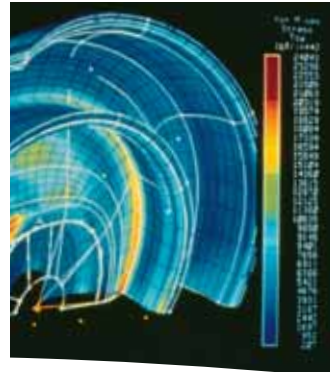




***TKL™ Primo-Titan
Self-Priming, Solids-Handling Pump***



Experience In Motion



Pump Supplier To The World

Flowserve is the driving force in the global industrial pump marketplace. No other pump company in the world has the depth or breadth of expertise in the successful application of pre-engineered, engineered and special purpose pumps and systems.

Pumping Solutions

Flowserve is providing pumping solutions which permit customers to continuously improve productivity, profitability and pumping system reliability.

Market Focused Customer Support

Product and industry specialists develop effective proposals and solutions directed toward market and customer preferences. They offer technical advice and assistance throughout each stage of the product life cycle, beginning with the inquiry.



Dynamic Technologies

Flowserve is without peer in the development and application of pump technology, including:

- Hydraulic engineering
- Mechanical design
- Materials science
- Intelligent pumping
- Manufacturing technology

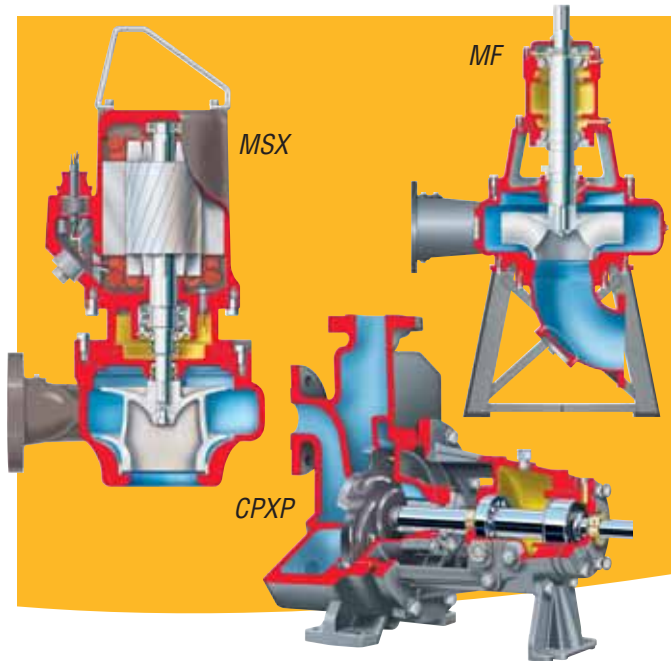
Broad Product Lines

Flowserve offers a wide range of complementary pump types, from pre-engineered process pumps, to highly engineered and special purpose pumps and systems. Pumps are built to recognized global standards and customer specifications.

Pump designs include:

- Single stage process
- Between bearing single stage
- Between bearing multistage
- Vertical
- Submersible motor
- Rotary
- Reciprocating
- Nuclear
- Specialty

**TKL Primo-Titan
Self-Priming, Solids-
Handling Pump**



Versatile and Reliable

The Flowserve TKL Primo-Titan is a proven self-priming, solids-handling pump. The result of a long and successful association with leaders in the construction and waste water industries, the Primo-Titan's simple design provides reliable, peak performance while offering versatility, ease of maintenance and low cost of ownership.

Advantages Over Submersible Pumps

- Higher temperature capability
- No sludge build-up on the motor
- Duty flexibility by changing pulley sizes
- Belt drive protection
- Blockages more easily removed

Applications

- Construction
- Utilities
- Slurries
- Industrial waste
- Dirty water
- Drainage
- Dewatering
- Sewage
- Cannery waste
- Scale pits
- Sludge
- Effluent
- Bilge pumping

Benefits of the Primo-Titan

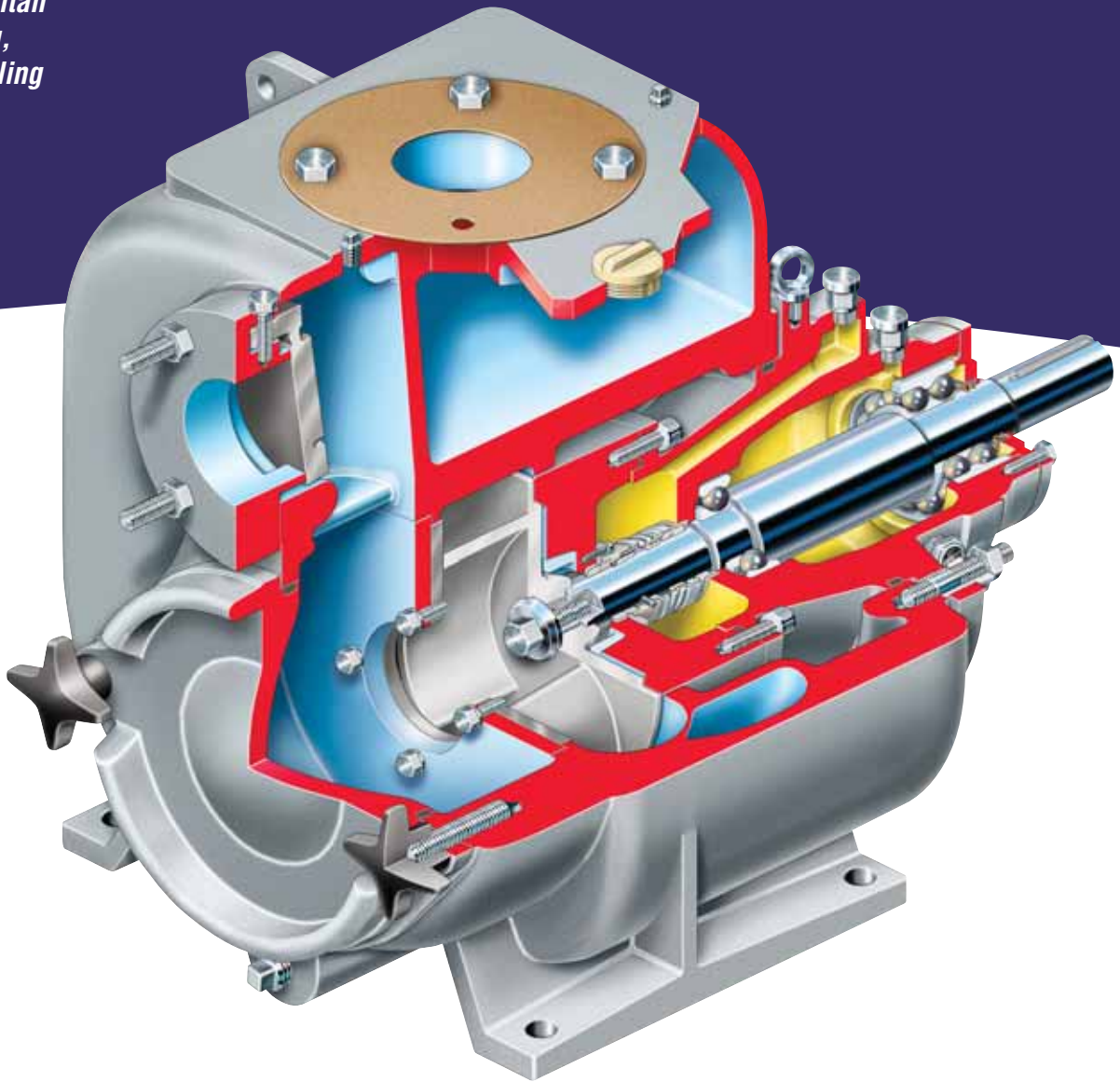
- Ease of Maintenance
 - Back pull-out design
 - Belt drive protection
 - Quick-disconnect clean-out
 - Quick, external impeller adjustment
 - Abrasion-resistant mechanical seal
 - No special tools required
- Versatility
 - High-temperature capability
 - Duty flexibility by changing drive pulley sizes
 - Portability
- Heavy-Duty Reliability
 - Generous wear allowance
 - Oversized shaft
 - Oversized bearings
 - Solid one-piece flap valve
 - Run-dry capability
- Low Total Cost of Ownership
 - Replaceable wear plate
 - Reversible wear plate
 - Reduced maintenance

Complementary Pump Designs

Flowserve also offers these pump designs

- CPXP ISO self-priming pump
- Mark 3 self-priming pump
- MSX solids-handling, submersible pump
- MF and MN end-suction, solids-handling pumps

**TKL Primo-Titan
Self-Priming,
Solids-Handling
Pump**



The Flowserve TKL Primo-Titan self-priming, solids-handling pump is engineered for reliability, low cost and long life in demanding services containing solids in suspension. Able to pass solids up to 75 mm (3 in), the Primo-Titan deftly handles dirty, gritty water as well as free-flowing slurries, screened sewage, sewage sludge and many trade effluents.

Operating Parameters

- Flows to 600 m³/h (2650 US gpm)
- Heads to 35 m (115 ft)
- Temperatures to 75°C (165°F)
- Working pressures to 5 bar (72 psi)
- Sizes 50 to 200 mm (2 to 8 in)
- Solids to 75 mm (3 in) diameter

Two-Vane, Semi-Open, Solids-Handling Impeller has integral back pump-out vanes and is fully balanced. Impeller is threaded to shaft and spigotted for positive location

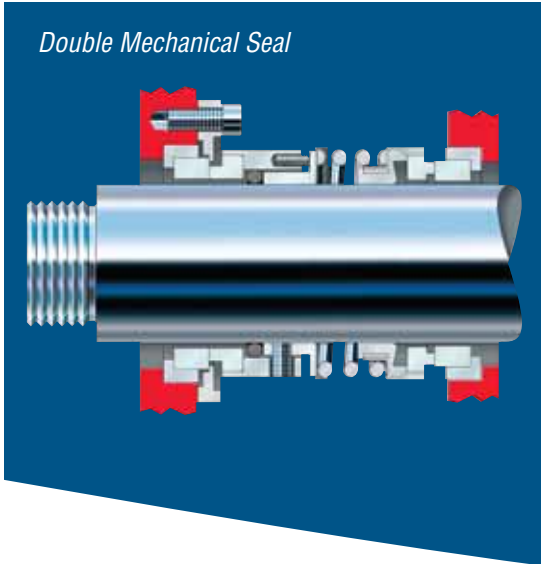
External Impeller Adjustment via four adjustable bushings allows clearances to be accurately reset, thereby restoring performance

Abrasion-Resistant Mechanical Seal prevents contaminants from entering the seal chamber

Quick-Disconnect Cover Plate is fitted with a pressure relief valve to facilitate start-up. Quick removal exposes reversible wear plate and permits removal of blockages

Heavy-Duty, Volute Casing minimizes wear in even the toughest operating conditions

Double Mechanical Seal



Quick Disconnect Cover Plate

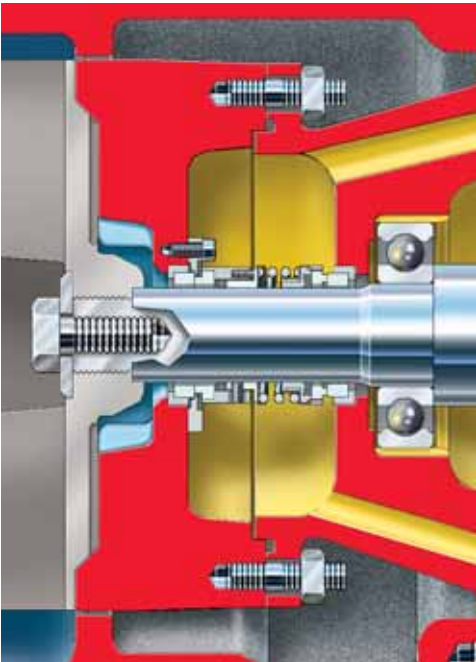


Abrasion-Resistant, Double Mechanical Seal

The Primo-Titan comes standard with an abrasion-resistant double mechanical seal in an oil chamber. A hard-faced balanced rotary unit prevents liquid and grit from entering the seal chamber. Oil cools and lubricates the seal faces.

Replaceable Seal Housing

The Primo-Titan employs a replaceable seal housing to facilitate maintenance without disturbing the piping. As part of the back pull-out design, the seal housing is positively located, sealed and fastened to the bearing housing.



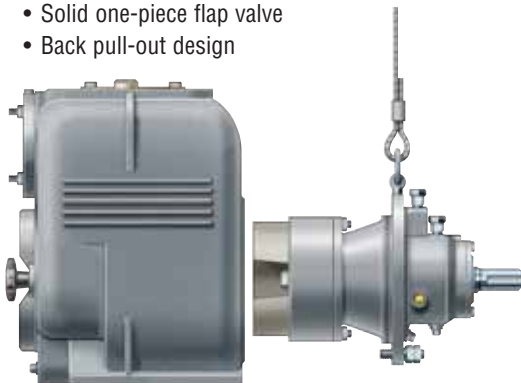
Bearings

Bearings are oil-lubricated, heavy-duty single row deep groove and angular contact double row type for radial and thrust loads, respectively. A lip seal protects bearings from dust, dirt and water. The bearing housing is equipped with eyebolt, oil filler cup, oil breather cap and sight glasses.



Additional Features

- Replaceable and reversible wear plate
- Extra large diameter shaft
- Solid one-piece flap valve
- Back pull-out design



Options and Technical Data



Materials

The Primo-Titan is readily available from stock in the standard materials of construction. (See accompanying table.) The pump also can be supplied in special materials, including stainless steel.

Trailer Mounting

The Primo-Titan is easily mounted to a trailer to enable mobile pumping capability at the plant site. This is especially useful for construction site and utility dewatering.

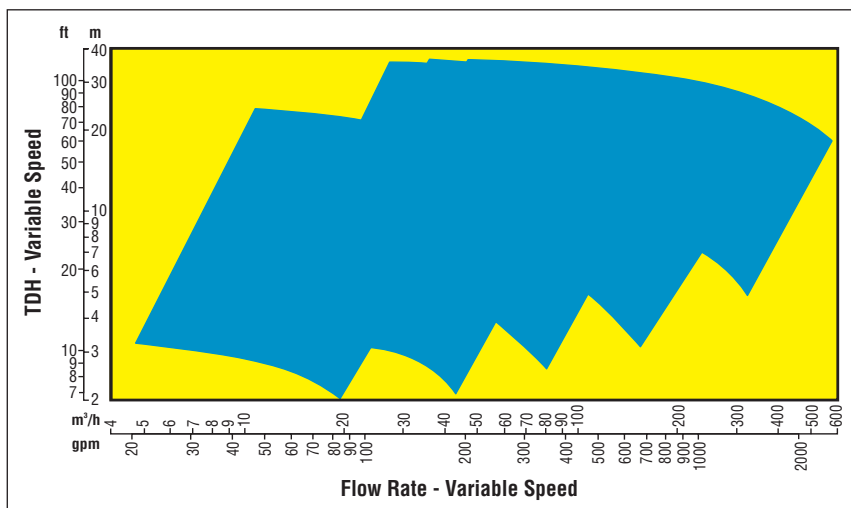
Drive Options

Though typically belt driven, the following drive methods also are available with the Primo-Titan:

- Direct drive, AC motor
- Gas engine, direct drive
- Diesel engine, direct drive

The choice of materials includes: ● Standard Material ● Special Material	Casing	Impeller	Shaft	Wear Plate
Grey Cast Iron (AS 1830/T260)	●			
Ductile Iron (AS 1831/400-15)	●	●		
Austenitic Cast Iron (AS 1833/L15-6-2)	●	●		
Austenitic Stainless Steel (AS 2074/H6B)	●	●		
Stainless Steel (AS 2837/431)			●	
Stainless Steel (AS 2837/316)				●
Mild Steel (AS 3679/250)				●
Bronze (AS 1565/C92610)	●	●		
Zinc Free Bronze (AS 1565/C95810)	●	●		
Ni Al Bronze (AS 1565/C95810)	●	●		

Primo-Titan Range Chart



Global Service and Technical Support



Service Dedication

Flowserve Engineered Services focus on providing customers with uncompromising service and support, where and when needed. Dedicated to delivering the highest quality support, Engineered Services integrate pump and materials engineering knowledge with creative service solutions.

A worldwide network of service and repair centers staffed by highly skilled engineers and technicians is available around the clock, seven days a week to respond to customer queries, to evaluate and troubleshoot problems and to provide reliable solutions.

Strength of Experience, Commitment to Excellence

Flowserve has long served industries requiring superior equipment performance and service life.

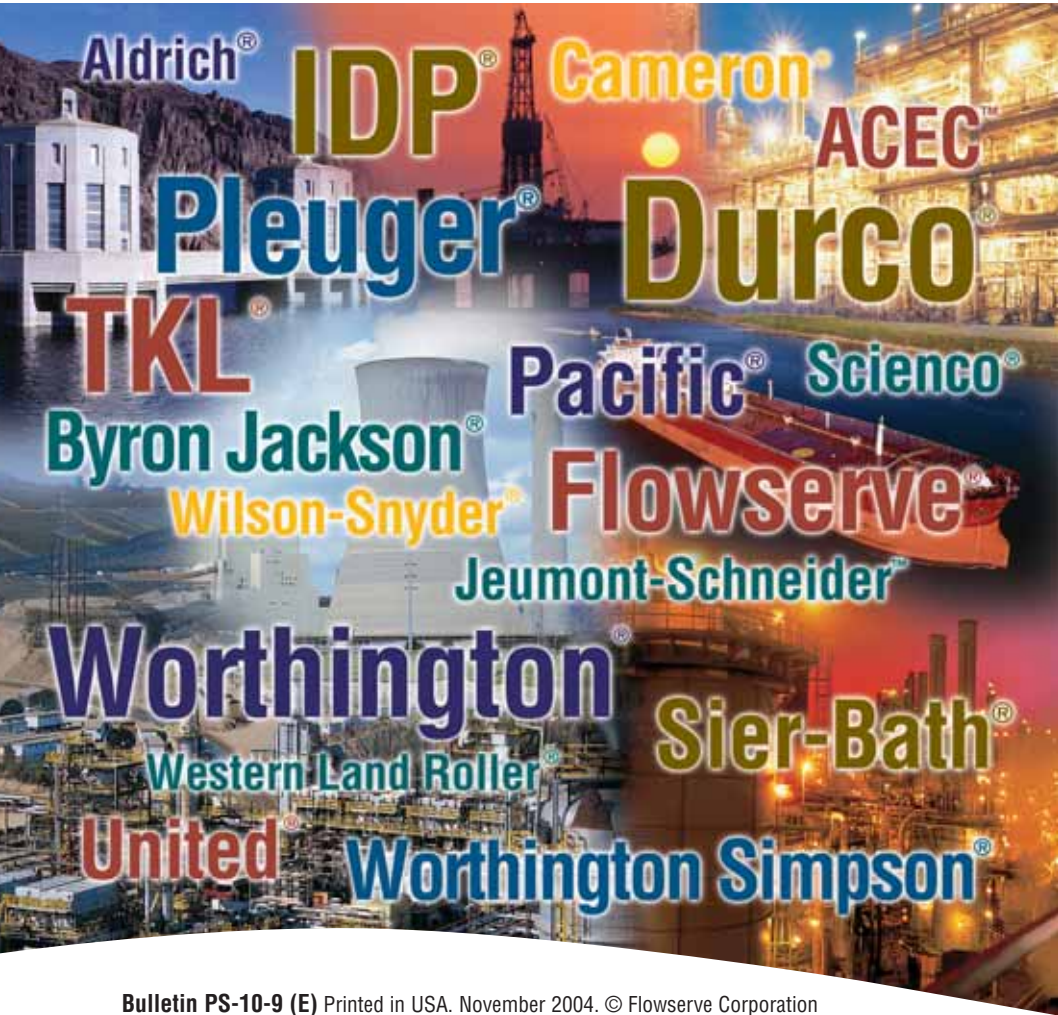
- Oil and gas production
- Hydrocarbon processing
- Chemical processing
- Water resources
- Power generation
- Nuclear
- Mining and mineral processing
- Pulp and paper
- General industry

Flowserve is dedicated to maximizing equipment performance and providing reliability-centered maintenance programs for pumps and related equipment, regardless of manufacturer. Using the FlowStar.net™ asset management software, Flowserve engineers and technicians track performance and support improvement programs using a service life cycle cost business approach. The results are improved reliability and increased profitability.

Business Partner

Flowserve partners with customers to respond to the dynamic business conditions that affect them. Flowserve will work with customers to drive efficiency, maximize throughput and control process quality. Whether user needs involve on-site technical assistance or broader project planning with full turnkey responsibility, Flowserve Engineered Services will deliver professional, reliable results.





USA and Canada
Flowserve Corporation
Pump Division
5215 North O'Connor Blvd.
Suite 2300
Irving, Texas 75039-5421 USA
Telephone: 1 972 443 6500
Telefax: 1 972 443 6800

Europe, Middle East, Africa
Flowserve Corporation
Pump Division
Via Rossini 90/92
20033 Desio (Milan), Italy
Telephone: 39 0362 6121
Telefax: 39 0362 303396

Latin America and Caribbean
Flowserve Corporation
Pump Division
6840 Wynnwood Lane
Houston, Texas 77008 USA
Telephone: 1 713 803 4434
Telefax: 1 713 803 4497

Asia Pacific
Flowserve Pte. Ltd.
Pump Division
200 Pandan Loop #06-03/04
Pantech 21
Singapore 128388
Telephone: 65 6775 3003
Telefax: 65 6779 4607

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To find your local Flowserve representative:

For more information about Flowserve Corporation,
visit www.flowserve.com or call USA 1 800 728 PUMP (7867)