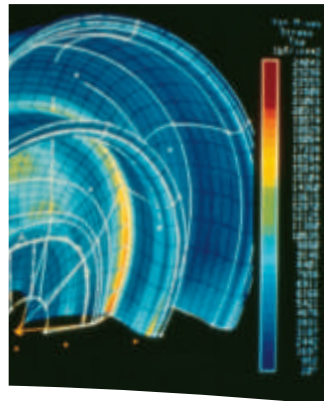




ECPJ
API 610 (VS4)
Vertical Sump Pump



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

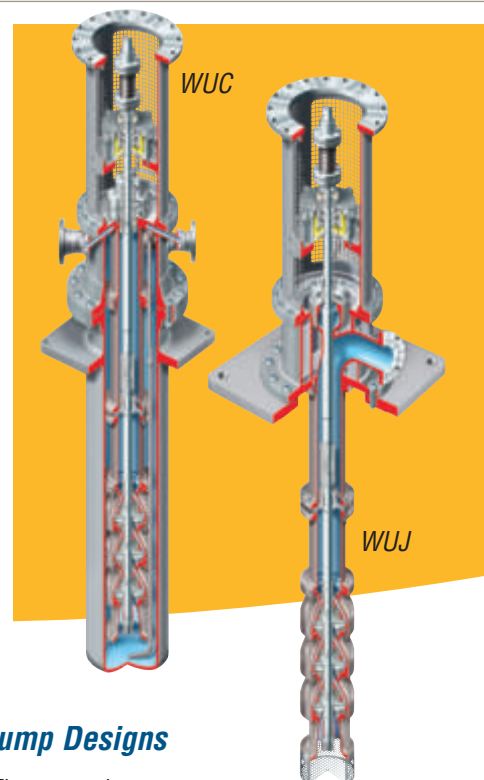
Broad Product Lines

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

**ECPJ
API 610 (VS4)
Vertical Sump
Pump**



Versatile, Reliable Performer

The Flowserve ECPJ is a rugged, single stage vertical lineshaft sump pump designed to perform tough jobs reliably, under a variety of difficult conditions. Based on a modular design system, the ECPJ pump provides dependable performance while offering maximum mechanical and hydraulic design flexibility. Fully compliant with API 610 (VS4), latest edition, each ECPJ pump can be custom engineered for the specific application in which it will be used.

Complementary Pump Designs

In addition to the ECPJ, Flowserve also can provide the following complementary API standard pump designs:

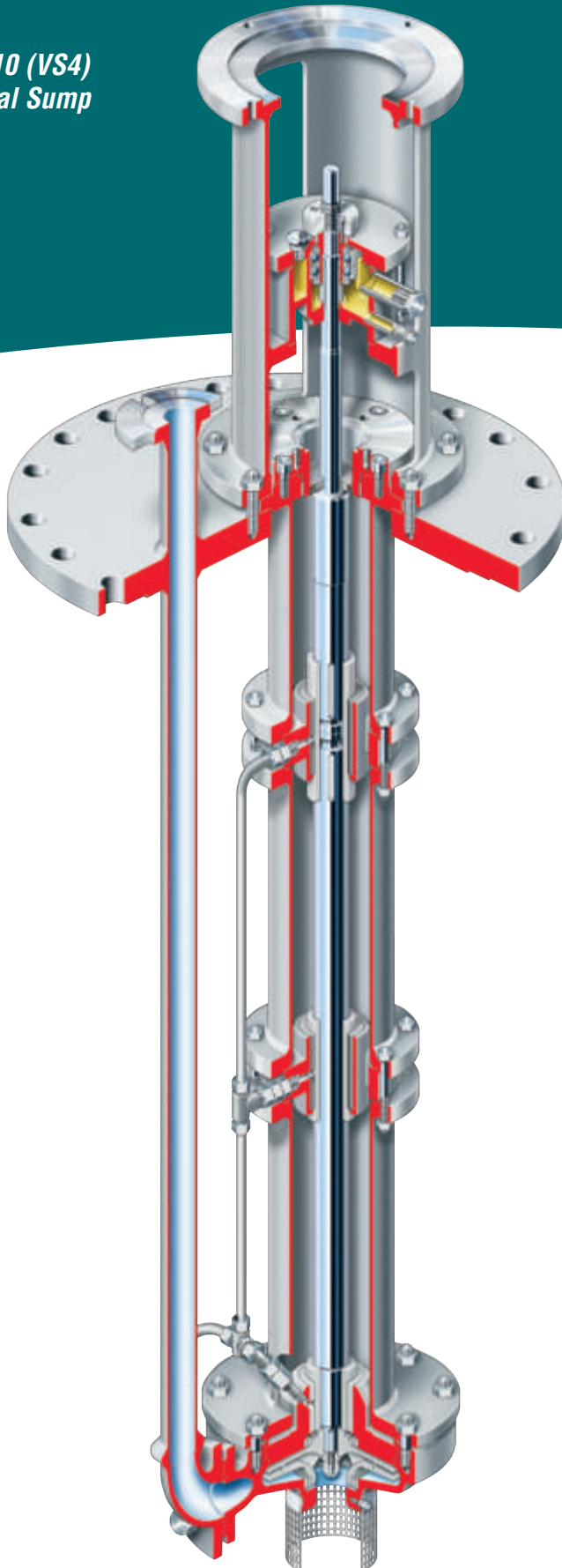
- WUJ API 610 (VS1) wet-pit pump
- WUC API 610 (VS6), vertical, double casing, multistage pump
- CPXV ISO vertical sump pump

Broad Application

- Petrochemical processing
- Chemical processing
- Refinery offsites
- Drainage
- High temperature transfer
- Gas and coal processing
- Liquid sulfur
- Molten salts
- Slops



**ECPJ
API 610 (VS4)
Vertical Sump
Pump**



The ECPJ vertical sump pump is a proven performer in chemical and hydrocarbon processing, delivering reliable performance in a wide range of applications. Fully compliant with API 610 (VS4) specifications, the ECPJ is available in 45 sizes. A range of impeller and casing designs allows the pump's hydraulic characteristics to be tailored to service requirements.

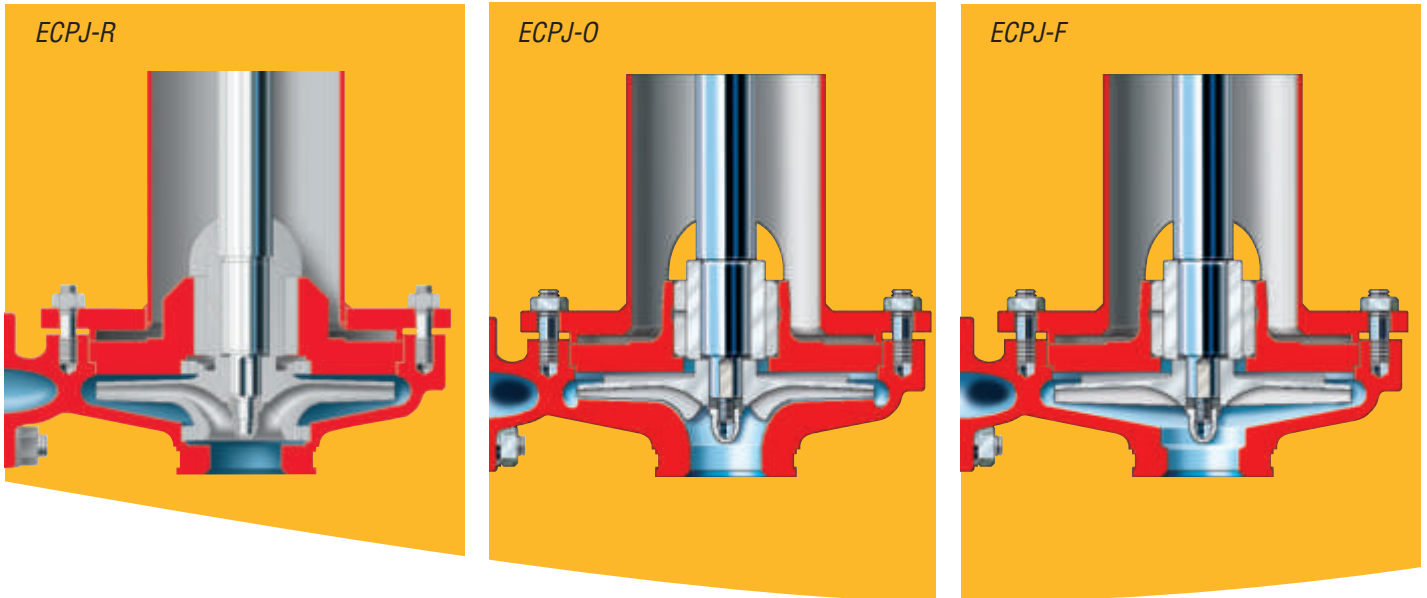
Operating Parameters

- Flows to 1000 m³/h (4400 gpm)
- Heads to 150 m (500 ft)
- Pressures to 20 bar (285 psi)
- Temperatures to 350°C (660°F)
- Column lengths to 6 m (22 ft)
- 45 sizes available

Pump Casing and Cover features metal to metal fit with fully confined, controlled compression gasket to endure proper sealing and alignment

Dynamically Balanced Precision Cast Impeller limits vibration and ensures smooth operation over a wide flow range. An anti-rotation impeller nut positively locks the impeller to the shaft without exposing its threads to the pumped fluid

API 682 Seal Chambers allow for installation of cartridge style single, dual unpressurized and dual pressurized mechanical seals to meet required safety and environmental requirements



Multiple Hydraulic Designs

The ECPJ is available in four API 610 compliant hydraulic designs. Impeller and casing configurations should be selected to suit application.

- ECPJ-R
 - Closed multivane impeller with front and back wear rings
- ECPJ-O
 - Open multivane impeller with back vanes
 - Suitable for handling soft particles like PTA applications
- ECPJ-F
 - Free flow impeller with back vanes
 - Recommended for enhanced solids handling capability
- ECPJ-H (not pictured)
 - Steam jacketed casing
 - Mandatory for liquid sulfur service

Bearing Configurations

The ECPJ pump features a thrust pot with API 40° angular contact bearings in back-to-back arrangement. This enables standard (non thrust) electrical motors to be used and fulfills API 610 bearing life criteria.

Lineshaft bearings are available in several metallic and non-metallic materials to suit application needs:

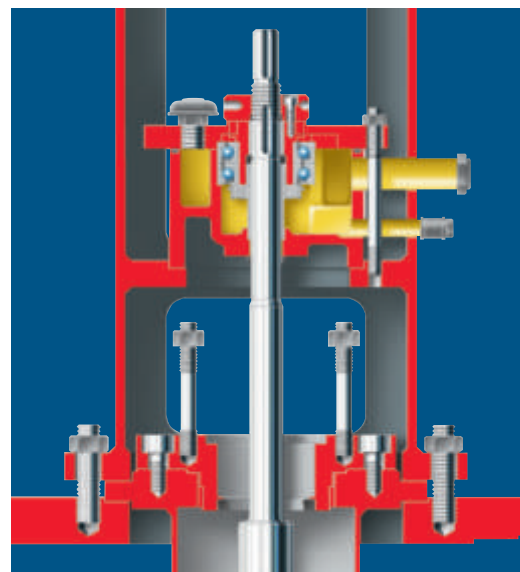
- PTFE
- Viton®
- Carbon
- Bronze
- Tungsten carbide
- Cast iron (for liquid sulfur service)
- PEEK

© Viton is a registered trademark of The DuPont Company

Available Baseplate Designs

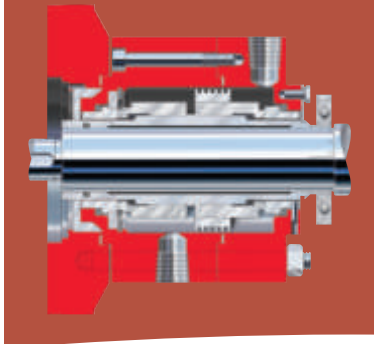
Several baseplate designs are available for the ECPJ.

- Rectangular
 - Non pressurized
 - Foundation or steel structure mounting
- Circular
 - DIN 2501 PN 6 - Tank pressures to 6 bar (87 psi)
 - ANSI 150 lbs
 - ANSI 300 lbs
- Customer specific dimensions

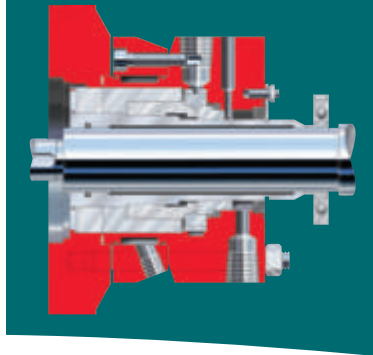


Options and Technical Data

API Double Mechanical Seal



API Single Mechanical Seal



Inducer



Shaft Sealing Options

The ECPJ is available with multiple shaft sealing options. Multiple seal types, including API 610 compliant cartridge seal designs, are available to suit application needs.

- V-Ring
- Throttle bushing
- Lip seal with grease filled stuffing box
- Soft packing
 - API 610 compliant cartridge designs
 - Single mechanical seal, including dry running types
 - Pressurized double mechanical seal
 - Unpressurized double mechanical seal

Materials of Construction

The ECPJ is available in a broad range of materials, including API 610 and NACE MRO175 compliant alloys. It is also available in specialty materials such as Titanium.

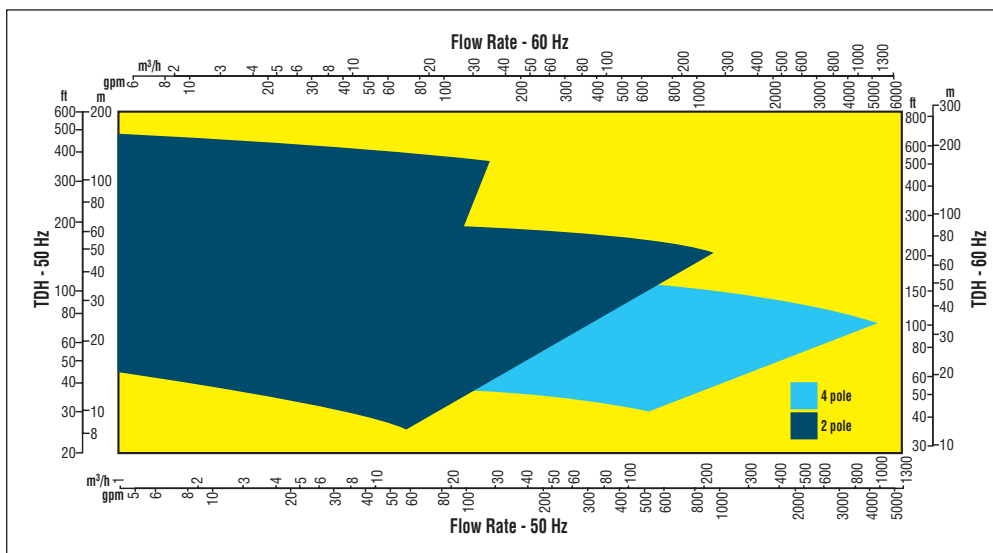
Optional Inducer

An inducer is available for all hydraulics when suction conditions are critical. The design reduces backflow and guarantees trouble-free operation over a broad flow range.

Additional Options

- Steam heating
- Suction strainer
- Bearing cooling (API Plan A)
- Internal or external bearing flushing
- Multiple API seal flushing, barrier fluid and quench system piping plans
- Suction pipe

ECPJ 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.





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Bulletin PS-10-10 (E/A4) Printed in USA. June 2006. © Flowserve Corporation

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