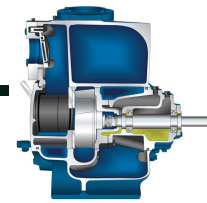


SPECIFICATIONS SPU Flex-Coupled Self-Primer Pumps



Casing: The casing is of ASTM A48 class 30 high tensile cast iron or other specified material. It is of the self-primer, volute type with top discharge and large capacity priming chamber. Ports are provided for filling and draining of the casing. The power frame assembly can be removed from the rear of the casing (back pull-out) without disturbing suction or discharge piping and has jack screws to aid in removal. The casing has an impeller inspection cover that permits rapid access to the impeller to remove obstructions. On the top of the casing is an oversized fill port to allow quick filling of the casing with pumped fluid. An oversized cleanout plate is located on the front of the casing for service and inspection. The impeller, wear plate, mechanical seal and suction check valve can be serviced through this cover plate without the need to disturb suction and discharge connections. Oversized fill ports as well as vent and drain openings are provided. To protect the pump and system piping, a standard pressure relief valve is located on the cleanout plate. Running clearances can be re-adjusted with adjustment screws to dial back to factory running tolerances and efficiencies easily and effortlessly. CPS-Pumps is one of only a select number of pump manufacturers in the world that offers end suction pumps in a variety of other cast materials including all bronze and all stainless steel construction. These are available upon request.

Impeller: The impeller is of the single suction, semi-open, multi-vane non-overloading type. It is constructed of investment cast 304 stainless steel or other specified material, machined, dynamically & hydraulically balanced. The impeller is keyed to the shaft and secured by locking impeller nut and lock washer. The multi-vane impeller design allows for limp and stringy solids to be pumped with solids passing through a 3 inch spherical solid. Impellers are furnished with back pump out vanes to keep solids from collecting in the casing area.

Shaft Sleeve: The shaft sleeve is constructed of a heavy wall stainless steel or other specified material and machined to precision tolerances. An internal o-ring is designed to keep fluid from leaking under the shaft sleeve. The shaft sleeve is keyed to prevent rotation during operation.

Case Wear Plate: The casing is fitted with a renewable wear plate. The plate is constructed of heavy duty cast iron and held in place by capscrews. This wear plate can be replaced when worn to bring the pump back up to factory tolerances and efficiencies.

Shaft: The SPU shaft is manufactured of corrosion resistant 420 stainless steel, ground and polished to a smooth external surface. It is designed for extra stiffness to avoid all critical speeds in operation and is threaded for bearing lock nuts.

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The shaft is designed to use an inboard and outboard deep groove ball bearing for rotor support.

Rear Cover: The rear covers are extra deep, being designed for cartridge mechanical seal. The mechanical seal has an independent oil reservoir for lubrication. The oil reservoir lubricates the hard faced mechanical seal during dry running and priming operations.

Power Frame: SPU models feature a power frame constructed of ASTM A48 class 30, high tensile cast iron and provides support for the inboard and outboard bearings. The power frame is fitted with two single row, deep groove ball bearings of ample capacity designed to account for radial as well as axial loads in either direction. Each bearing is pressed on to the shaft and located against precision machined shoulders assuring proper alignment and location. Bearing caps with lip seals provide protection to the bearings by keeping dust and dirt out of the power frame. Bearing isolators can be supplied upon request. Each bearing is of the oil-lubricated type for quiet operation and the power frame has oil level indicator integral for inspection of proper level.

SPU Bearings: Both the inboard and outboard bearings are of the single row, deep groove type, precision grade. Each bearing is of the extra large capacity for both radial and axial loads and both bearings are confined rigidly in the bearing housing. All bearings are sized to maintain a minimum L10 bearing life of 50,000 hours with many models exceeding 100,000 hours standard. Each bearing is designed for oil lubrication. Each bearing housing is sealed from water leakage by the use of an oil lip seal. Bearing isolators are available upon request. Belt drive and SAE mounts are available upon request.

Motor: SPU models utilize NEMA or IEC T-frame motors or SAE mounts on diesel engines. This design uses readily available and stocked standard motors. This motor concept allows the user to use nearly any motor enclosure such as ODP, TEFC, Explosion Proof, Corro-Duty and Wash-Down Duty.

Model SPU

Self-Priming

CPS PUMPS

Sizes: 3x3-11 (80/28) to 6x6-12 (150/30)

Flows: 2,700 GPM (613 m³/hr)

Heads: 200 Feet (61 m)

Temps: 180° F (82° C)

Services:

- Chemical
- Construction
- General Industry
- Marine
- Mining & Aggregate
- OEM
- Power Generation
- Petro-Chemical
- Pulp & Paper
- Water & Wastewater



Two Vane Open Impeller

Casing

- Heavy duty ASTM A48 class 30 cast iron
- Can be supplied in all bronze, all 316 stainless steel or high Chrome alloys
- Heavy wall allows for generous corrosion allowance with a 20 year design life
- Oversized priming chamber for faster priming times and larger solids passing
- Oversized filling port for quick filling of the casing
- Bolt on suction or discharge flanges expanding piping connection options
- All covers have Quick Set handles and can be opened without any special tools
- Studded construction make assembly process very quick

Impeller

- One piece investment cast 304 stainless steel or other specified alloy
- Hydraulically balanced using rear pump out vanes
- Expertly machined and dynamically balanced prior to assembly
- Multi vane, high head, balanced design allows for high efficiency and large solids passing
- Can be supplied in 316 stainless steel or high Chrome alloys

Suction Inlet

- Heavy duty check valve to keep liquid in the casing when the pump stops
- Check valve can be removed without disturbing suction piping
- Oil resistant with canvas reinforcement for durability
- Heavy, integral valve weight to ensure that the valve remains closed when the pump is off

Cleanout Cover

- Removing the cover gives complete access to the interior of the casing assembly
- The impeller, wear plate and check valve can be inspected, removed and replaced through this opening without disturbing suction piping
- Solids that get stuck in the pump can be removed through this oversized port
- Running clearances can be readjusted by moving this cover plate toward or away from the casing assembly

Power Frame

- Heavy duty ASTM A48 class 30 cast iron
- Houses two (2) oversized, deep groove roller bearings that fully support the rotor assembly
- Has two independent oil reservoirs, one for the bearings and the other for the mechanical seal
- Dual oil eye for positive oil level confirmation
- Pump can be direct driven or belt driven based on job-site requirements

Mechanical Seal

- Tungsten Carbide vs. Tungsten Carbide face arrangement
- Oil bath lubrication
- Can run dry temporarily on high vacuum even when pumping highly abrasive liquids
- Integral stainless steel shaft sleeve

