

**FLOW**

**FLUID**

**FORCIBLY**



**SPEW**

POSITIVE DISPLACEMENT PUMPS

# SLIDING VAN POSITIVE DISPLACEMENT PUMPPUMP

**MODEL: SVP Series**



*Engineered for Efficiency, Versatility & Reliability*

**Designed for:**

**For Medium Temperature & Medium Viscosity**

Data Sheet: SVP-02-04

Issued : May-2013

Replaced : Dov-2024

[WWW.SPEWPUMPS.COM](http://WWW.SPEWPUMPS.COM)

**“SPEW SPF”** Self-priming, low-pulsation flow across a wide viscosity range. Reversible, efficient, and gentle on product with an integral relief valve for safe, reliable transfer.

## INTRODUCTION:

**SPEW SVP Sliding Vane Pump** blends rugged performance with premium presentation: a compact, positive-displacement design that self-primers fast, delivers smooth, low-pulsation flow, and maintains output across a wide viscosity range—from thin solvents to heavy lube oils. Carbon/compound vanes automatically compensate for wear to preserve volumetric efficiency, while strong suction lift and reversible operation make loading/unloading seamless. An integral, adjustable relief valve safeguards the line, and the service-friendly layout keeps downtime to a minimum. Pair with a VFD for precise metering, choose materials/seals to match your media, and specify ATEX/IECEx options for hazardous areas. **SVP by SPEW—reliable, gentle, and efficiency-driven transfer for fuels, lubricants, and process chemicals.**

## Key Features & Benefits

- **Self-priming & strong suction:** Fast air evacuation; reliable suction-lift for tank truck, underground tank, and transfer duties.
- **High efficiency across viscosities:** Handles ~0.2 to 100,000+ cSt with minimal slip; maintains flow as pressure rises.
- **Low pulsation, smooth flow:** Fewer pressure spikes than gear pumps; better for meter accuracy and downstream instrumentation.
- **Gentle on product:** Lower shear than gear pumps; protects lube oils, polymers, fuels, and additives.
- **Reversible operation:** Full-rated flow in either direction by reversing rotation—ideal for loading/unloading.
- **Dry-run tolerant (short duration):** Carbon/graphite vanes provide brief dry-run survivability for line clearing and priming.
- **Built-in safety:** Integrated **relief/bypass valve** protects pump and line from over-pressure.
- **Serviceable design:** Front pull-out construction on many models; vanes are a low-cost wear item, replaced in minutes.
- **Compact footprint:** High power density and simple drive options (motor, VFD, PTO, hydraulic, engine).

## CONSTRUCTION TYPES:



LEFT AND RIGHT INLET



Double Shaft



Single Shaft

## MOUNTING



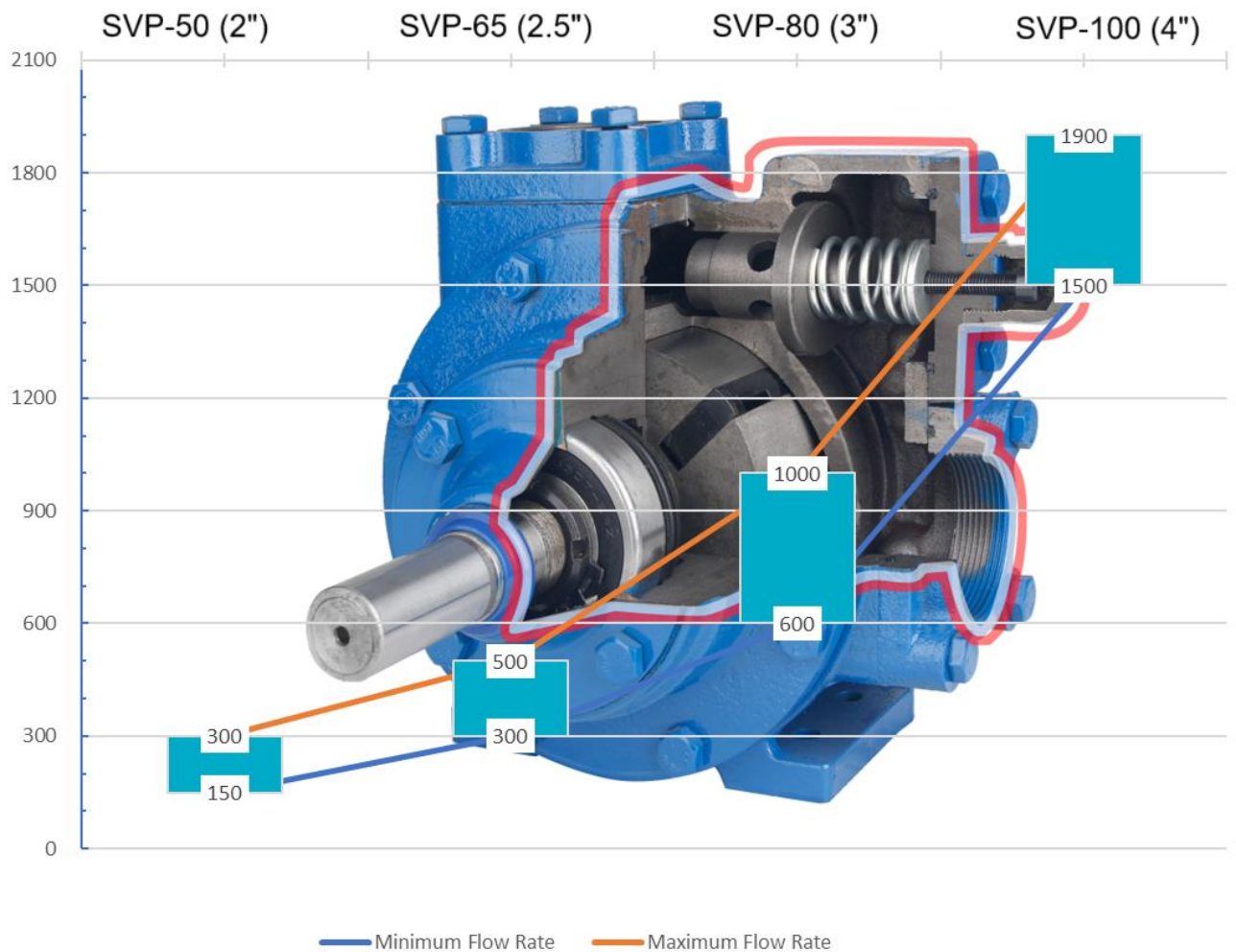
Belt Driven



Direct Gear driven

## Typical Performance Envelope

- **Flow rate:** From a few L/min 150 to 1900 (model-dependent as below)
- **Differential pressure:** Typically up to 10–14 bar (higher with special designs)
- **Viscosity:** ~0.2–10,000+ cSt
- **Temperature:** –40 to 150 °C with appropriate materials, clearances, and seal selection
- **Suction capability:** Excellent; suited to tank farm and truck/tanker duties (observe NPSH and vapor pressure limits)



## Specification

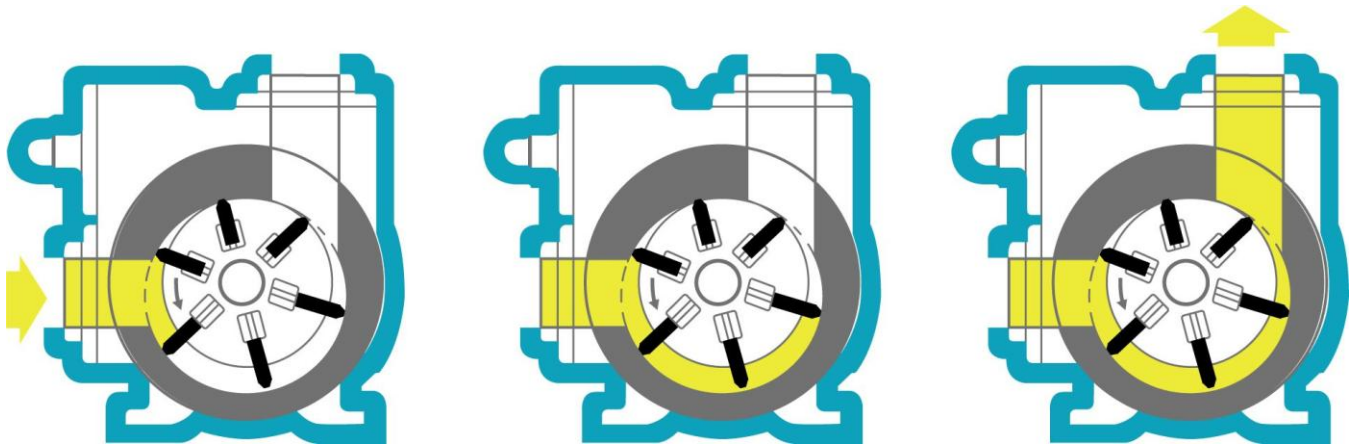
Model	YB-50	YB-65	YB-80	YB-100
Size	50mm/2"	65mm / 2 1/2"	80mm/ 3"	100mm/ 4"
Pump Speed	400~640RPM	400~640RPM	400~640RPM	500RPM
Flow Rate	150~300L/Min	300~500L/Min	600~1000L/Min	1500~1900L/Min
Vacuum	0.5Bar			
Working Pressure	5Bar			
Motor Power	2.2KW/3HP	4KW/5HP	7.5KW/10HP	18.5KW/25HP
Dimension	44×35×35cm	46×34×37cm	49×42×42cm	58×55×61cm
Net Weight	31KG	40KG	68KG	160KG
Gross Weight	34KG	47KG	74KG	178KG

## Construction & Materials

- **Pump body/cam:** Cast iron, ductile iron, carbon steel, or stainless steel for corrosive/food-grade service
- **Vanes:** Carbon/graphite (standard), polymer composite, or specialty grades for high temp/chemical resistance
- **Shafts/bearings:** Alloy steel / stainless shafts; anti-friction bearings with robust lubrication path
- **Sealing:**
  - **Mechanical seal** (single, double, or cartridge) with flush/plan options
  - **Packed gland** for heavy-duty or dirty service
  - **Mag-drive** available on select models for zero emissions
- **Ports:** NPT, BSP, ANSI/DIN flanges; inline or right-angle configurations
- **Safety:** Integral adjustable **internal relief valve**; external recirculation on request; ATEX/IECEx options for hazardous areas

## Operating Principle (Step-by-Step)

1. Rotor turns eccentrically within the cam ring; vanes slide out to contact the cam, forming sealed cells.
2. On the **inlet side**, cell volume increases → pressure drops → fluid enters (self-priming).
3. Rotational sweep **transfers** fluid to discharge side.
4. On the **discharge side**, cell volume decreases → pressure rises → fluid is expelled at near-constant displacement.
5. **Wear compensation**: As vanes and cam wear, vane extension maintains sealing, preserving efficiency.



## Installation & Controls

- **Drive**: Fixed-speed or VFD for flow control; close-coupled, base-mounted, or truck/PTO drive.
- **Piping**: Short, well-supported suction line; full-bore valves; minimal elbows/strainers to reduce NPSH losses.
- **Protection**: Set/verify relief valve; consider external bypass to tank for continuous recirculation.
- **Filtration**: Suction strainers sized for low velocity; avoid starving the pump.
- **Instrumentation**: Inlet vacuum gauge + discharge pressure gauge for at-a-glance health monitoring; flowmeter where custody/recipe accuracy matters.

## Applications

- **Fuels & solvents:** Gasoline, diesel, jet fuel, ethanol blends, aromatics (low shear, meter-friendly)
- **Lubricants & base oils:** Group I–V oils, additives, VI improvers, gear/hydraulic oils
- **Chemicals:** Alcohols, ketones, esters, polymers (consult compatibility)
- **Bitumen & hot oils:** With high-temp materials and thermal jackets
- **Food & beverage (industrial):** Syrups, edible oils (with stainless/food-grade options)
- **Loading/Unloading:** Truck, railcar, barge, skid-mounted transfer systems

## Advantages vs. Other PD Technologies

- **Compared to gear pumps:** Lower shear, better suction lift, often higher volumetric efficiency on viscous service, simpler field rebuilds.
- **Compared to screw pumps:** More compact and typically lower initial cost; easier to reverse; good metering quality with less pulsation than gear.
- **Compared to lobe/diaphragm:** Smoother flow than diaphragm; more tolerant of viscosity swings than lobe for a given size.



### Contact Us

#### Business Hours

☎ Weekdays: 8.30AM to 5.30PM  
Weekends: Closed

✉ enquiry@spewpumps.com

PT 14515, Persiaran Batu Gajah

📍 Perdan 8, Taman Perindustrian Batu  
Gajah Perdan, 31550, Perak,  
Malaysia