

SOLIDSVAC

SOLIDS PUMPING SYSTEMS



SV200-SPDK
showing wheeled option

SV200-SPDK Operations Manual



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SAFETY FIRST

CAUTION & GENERAL SAFETY

This manual contains important information concerning the installation, operation and maintenance of the Solidsvac Pump, Model SV200-SPDK. To prevent injury to personnel or equipment damage, this manual MUST be read and understood by those responsible for the installation, operation and maintenance of the equipment.

THIS OPERATION MANUAL MUST BE USED IN CONJUNCTION WITH BOTH SITE SPECIFIC RA AND JSA'S.

- Isolate, tag out and disconnect the air supply to the unit prior to working on any part of the system
- Lift the equipment only at the lifting points provided
- The pump should be installed in a safe level area, which provides adequate access for operating the equipment
- Ensure all hoses are in good condition, correctly rated and certified for the service in which they are to be used
- Inspect the unit regularly for damaged or worn components
- All covers must be fitted prior and during operation
- Air pressure should NEVER exceed rated pressure
- Tie down points (if fitted) must NOT be used as lifting point

CAUTION: BE AWARE OF RETAINED MATERIAL IN THE TANK INCREASING WEIGHT

SOLIDSVAC PUMPS EACH HAVE SPECIFIC COMPRESSED AIR REQUIREMENTS DEPENDING ON THE JET PACK FITTED.

The operator must ensure that an appropriate and adequate air supply is available depending on the model and Jet Pack in use.

All Solidsvac Pumps require a minimum operating pressure of 500kpa and have a maximum operating pressure of 720kpa (105psi).

It is recommended that a 40mm (1 1/2") i.d. air hose is used for compressed air supply to the pump.

The Discharge hose MUST be no smaller in diameter than the pumps outlet 100mm (4") preferably a self-supporting type and secured at regular intervals.

WARNING: THE PUMP-OUT LINE MUST BE SECURED AT THE EXIT POINT

1. Operational Overview

The SolidsVac SV200-SPDK operates as a shuttle system alternately discharging, then loading a wide range of flowable materials.

Operation is fully automatic and the SolidsVac SV200-SPDK features no internal workings, high vacuum and pressure discharge where suction of up to 50 metres and discharges of up to 500 metres are achievable.

2. Design Registration

The SolidsVac SV200-SPDK has a Certificate of Plant Design Registration from Workcover NSW, Australia. A copy of which may be obtained by contacting SolidsVac PumpS.

DESIGN REGISTRATION # PV-6-204612/16

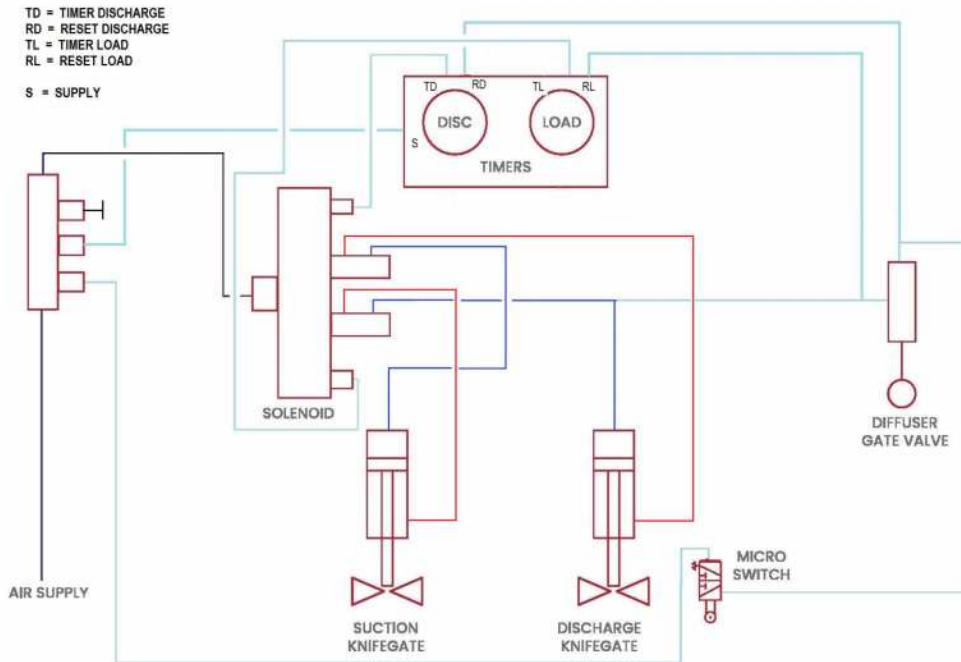
Technical Standards

- AS2971-2007 Serially Produced Pressure Vessels
- AS4343-2005 Pressure Equipment – Hazard Levels
- AS1210-1210 Pressure Vessels

3. TECHNICAL DATA

TECHNICAL DATA	METRIC	US IMPERICAL
Height	1350 mm	53"
Width	900 mm	35.5"
Length	1560 mm	61"
Weight	315 kg	617 lb
Air Inlet	40 mm	1 1/2" BSP
Suction Inlet	100 mm	4"
Discharge Outlet	100 mm	4"
Suction Lift	6.5 m @ 50 cfm	28' 6" @ 230 cfm
	8.0 m @ 100 cfm	29' 5" @ 380 cfm
	8.6 m3 Jet Pack	230 cfm Jet Pack
Air Consumption Options	9.0 m3 Jet Pack	380 cfm Jetpack
Delivery	>500 m	1640+ ft
Displacement Cycle	190 ltr	50 gal
Operating Pressure	7 bar (max) @ 690 kPa	105 psi max)
	4.5 bar (min) @ 690 kPa	65 pis (min) 1
Maximum Solids	65 mm	2 1/2"
Water Throughput	665 lpm	176 gpm

4. SV200-SPDK SCHEMATIC



SV70-SPDK SCHEMATIC

5. ACCESSORIES

Suction Wand - Attaches to the suction hose allowing the operator to stand upright and ambient air to be introduced at the material inlet

Strainer - available in two sizes and attaches to the suction hose to prevent the ingestion of oversize particles

VacHead - An industrial vacuum head with squeegee brush allows the operator to stand upright, recovering material from hard surfaces i.e. an oil spill from a road surface.

NB: It is recommended that the suction timing cycle is set to 15 seconds when using this accessory.

Delivery Carousel - Controlled discharge to either a conveyor or multiple points/skips etc.

Hoses - A complete range of high quality suction and discharge hoses are available

Hoover Head - Helps focus the vacuum and is ideal for recovering heavier material such as barite, oil sludge, mud or similar from tank bottoms and various hard surfaces.

Dropbox - Delivery of material to a skip, conveyor or specific point

Tool Kit - Contains all you need for basic maintenance on your pump

Service Kit - Contains all you need for basic maintenance on your pump



6. PUMP SET-UP

Before commencing operation, Solidsvac recommends that a site specific Risk Assessment of the pumping operation is undertaken. Any recommendations arising from the Risk Assessment would be additional to the following.

BEFORE OPERATING THE SOLIDSVAC SV200-SPDK CHECK:

- The unit and all hoses fittings are undamaged and in good working order
- All covers are fittings and in place and correctly secured
- Clean compressed air at minimum working pressure of 500kpa (75 psi) at 100 cfm is available
- A 40mm (1 1/2") i.d. air hose is available
- The discharge area has suitable warnings to protect personnel
- The correct PPE is available and worn for operating compressed air equipment
 - Eye Protection
 - Hearing Protection
 - Gloves
 - Safety Boots
- Set the Solidsvac Pump in a safe level location as close to the material to be pumped as possible
- Attach both suction and discharge hoses along with any accessories as required and ensure safety clips are in place
- Ensure the main air valve is in the off position and attach the 40mm (1 1/2") air hose to the Solidsvac Pump & fit safety clips
- The pump is now ready for use

Note: Always position hoses out of walkways where possible remaining aware of trip and fall hazards.

7. OPERATION

Turn the air supply valve ON at the source. Turning the pump valve to ON, the pump will now commence its cycle of operation. The LOAD and DISCHARGE cycles are controlled by adjustable pneumatic timers, these allow for adjusting the pump to varying conditions, i.e. heavy or light material or long or short distances etc. During the LOAD cycle the operator should note an audible difference (Gargle) once the vessel has filled, adjust the LOAD timer to where the cycle completes just as or prior to this occurring. The DISCHARGE cycle depends on both the material being transferred and the distances involved. A discharge setting of 7-10 seconds will accommodate about 95% of most pumping jobs with the SV200.

Once pumping is completed, remove the suction from the material and allow the pump to cycle self clean, On completion of the operations, isolate the air supply and allow the pump to cycle until the supply in the line is exhausted, then turn the pump off at the supply line. SOLIDSVAC recommends checking the pump discharge to ensure it remains correctly anchored at the exit.

NOTE: Dry operation will not damage the pump.

6. MAINTANENCE

In use, the Solidsvac SV20-SP requires no maintenance, however the following procedures are recommended in the event of the loss of vacuum when operating either in-line or exhaust to atmosphere mode.



AIR INLET FILTER

Prior to commencing each pumping operation:

- Check that all fittings and connection are serviceable
- Adequate compressed air is available
- A general visual inspection of the unit including the suction and discharge valves is recommended

A small metal gauze in-line filter prevents foreign objects entering the venturi nozzle via the air supply line. Solidsvac Pumps recommend periodic inspection and cleaning as required, replacement filters and seals are available from your Solidsvac suppliers.

SAFETY FIRST

PRIOR TO COMMENCING ANY WORK ON THE UNIT, THE AIR SUPPLY VALVE MUST BE ISOLATED AND THE CONTROL SYSTEM TESTED DEAD

9. TIMER CYCLING & ADJUSTMENTS

Adjusting the Load and Discharge cycles may be required depending on material being transferred and the distances involved etc. Turning the upper flow restrictor to negative will decrease the loading time, similarly rotating it to positive will increase the load time.

The Pressure Relief Valve can be manually operated via the lever as indicated below.

Caution: It is recommended that only a quarter turn adjustment is made at a time.

Pressure Relief Valve



Cycle Control Timers



Model Number

Serial Number

Date of Manufacture

Inspected by



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