

SOLIDSVAC®

SOLIDS PUMPING SYSTEMS



SV200-SPDK-CF Operations Manual



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CONTENTS

Description	Page
Safety First	3
1. Operation Overview	3
2. Design Registration	3
3. Technical Data	4
4. Accessories	4
5. Pump Set-Up	5
6. Operation	5
7. Maintenance	6
8. Adjusting the LOAD and DISCHARGE cycles	7
9. SV200-SPDK-CF Schematic	8
10. Main Components	8
11. Notes	9



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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-CF. To prevent injury to personnel or equipment damage, this manual should be read and understood by those responsible for the installation, operation and maintenance of the equipment.

- 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 to operation
- Air pressure should NEVER exceed the rated pressure
- Tie down points (if fitted) MUST NOT be used as lifting points

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

CAUTION: SOLIDSVAC RECOMMENDS THE FITMENT OF 3-WAY T & MANUALLY OPERATED KNIFE GATE VALVE TO REDUCE PRESSURE IN THE EVENT OF A DISCHARGE LINE BLOCKAGE

Prior to operating the Solidsvac Pump:

- Ensure optimum air supply is 380cfm @ 690 kPa (100 psi)
- It is recommended that a 50 mm (2") i.d. air hose is used for compressed air supply to the pump
- The pump-out discharge line should be a minimum of 100 mm (4") diameter

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

1. OPERATIONAL OVERVIEW

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

Operation is both manual and fully automatic and the Solidsvac SV200-SPDK-CF 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-CF 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 IMPERIAL
Height	1400 mm	55"
Width	1150 mm	45"
Length	1650 mm	65"
Weight	800 kg	1212 lb
Air inlet	51 mm	2" BSP
Suction Lift	100 mm	4"
Discharge outlet	1000 mm	4"
Delivery	500+ m	1640+ ft
Suction lift	15m+ @ 380 cfm Up to 25m @ 600 cfm	49' ft+ @ 380 cfm Up to 82' ft @ 600 cfm
Air consumption	10.7 m ³ /Min Jetpack 16.9 m ³ /Min Jetpack	380 cfm Jetpack 600 cfm Jetpack
Displacement cycle	190 ltr	50 gal
Operating pressure	7 Bar (Required) @ 690 kPa	100 psi (Required)
Measured Water Throughput	665 lpm (380 cfm) 900 lpm (600 cfm)	175 gpm (380 cfm) 237 lpm (600 cfm)
Maximum solids	65 mm	2-1/2"
Air Consumption Options	76 to 88 kPa	22.5" to 26" Hg

Note: All performance statistics listed were measured on water and will require 7 bar (100 psi) operating pressure.

4. ACCESSORIES

Suction Wand – Attaches to the suction hose allowing the operator to stand upright.

Large Capacity Strainer – Attaches to the suction hose to prevent blockages.

Delivery Carousel – Discharge to multiple skips.

Hoses – A complete range of high quality suction and discharge hoses.

Duck Bill Vacuum Head – Helps focus the vacuum and is ideal for recovering spilled oil, drill mud or similar from the rig floor or tank bottoms.

Dropbox – Delivery to skip or conveyor.

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

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



5. PUMP SET-UP

Before commencing operation, Solidsvac Pumps recommends that a site based Risk Assessment (RA) 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-CF check:

- A) The unit and all hoses and fittings are undamaged and in good working order.
- B) All covers are fitted and closed.
- C) Clean compressed air at a minimum working pressure of 690 kPa (100 psi) at 380 cfm (or 600cfm) is available.
- D) A 51 mm (2") air hose is available.
- E) The discharge area has suitable warnings to protect personnel are in place.
- F) The correct PPE is available and worn for operating compressed air equipment.

Note: The Solidsvac Pump requires NO lubrication.

- 1) Set the Solidsvac Pump up in a safe, level location near the material to be pumped.
- 2) Attach both suction and discharge hoses along with any accessories (Suction Wand, Drop Box, Delivery Carousel) as required and ensure safety clips are in place.

*Always position hoses out of walkways where possible.

- 3) Ensure the main air valve is in the off position and attach the 51 mm (2") air hose to the Solidsvac Pump and fit appropriate safety clips.
- 4) The pump is now ready for use.

CAUTION: Solidsvac recommends that the SV200-SPDK-CF unit, should be operated firstly in the Manual setting. Manual operation will ensure safe & correct timing cycles are achieved.

6. OPERATION

Turn the air supply valve on at the source followed by the valve on the pump. Turn the secondary lever to manual and the first lever to suction. The pump will now commence operation.

Once a desirable operation is achieved, the automatic setting can be selected and the pump can be left running unattended indefinitely.

- Solidsvac Pumps recommend checking the pump out-line to ensure it remains correctly anchored at the exit.

NOTE: Dry operation will not damage the pump.

- When pumping is complete, isolate the air at the pump and then the source.
- To release pressure from the air supply line turn on the pump air valve. (The pump will cycle until there is insufficient air to operate.)
- Select pump air valve to off.

SAFETY FIRST

**ISOLATE AIR SUPPLY
VALVE AND HAVE AIR
SUPPLY VALVE OFF
BEFORE COMMENCING
ANY WORK ON THE UNIT**

**REPORT ANY DEFECTS
IMMEDIATELY**

7. MAINTENANCE

In use, the Solidsvac SV200-SPDK-CF requires no maintenance. However the following procedures are recommended in the event of any loss of vacuum when operating in either in-line or ETA (Exhaust to Atmosphere) mode.

Prior to commencing each pumping operation:

- Check that all fittings and connections are serviceable.
- Inspect exhaust box to ensure it is free from any carry-over material.

NOTE: Regular visual inspection of the knife gate seals are also recommended.



Remove exhaust box
lid for cleaning

8. ADJUSTING THE LOAD AND DISCHARGE CYCLES

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.

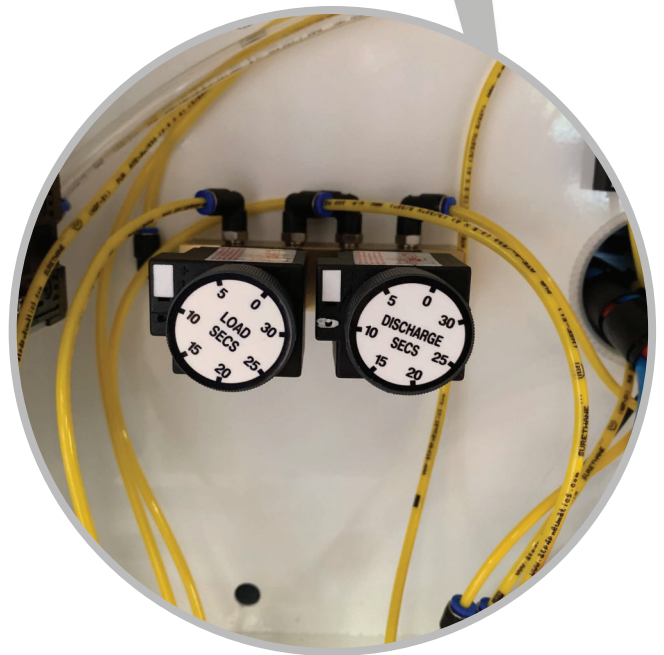
Caution: It is recommended that only a quarter turn adjustment is made at a time.

Note: Numbers found on cycle timers are a guide only.

Pressure Relief Valve



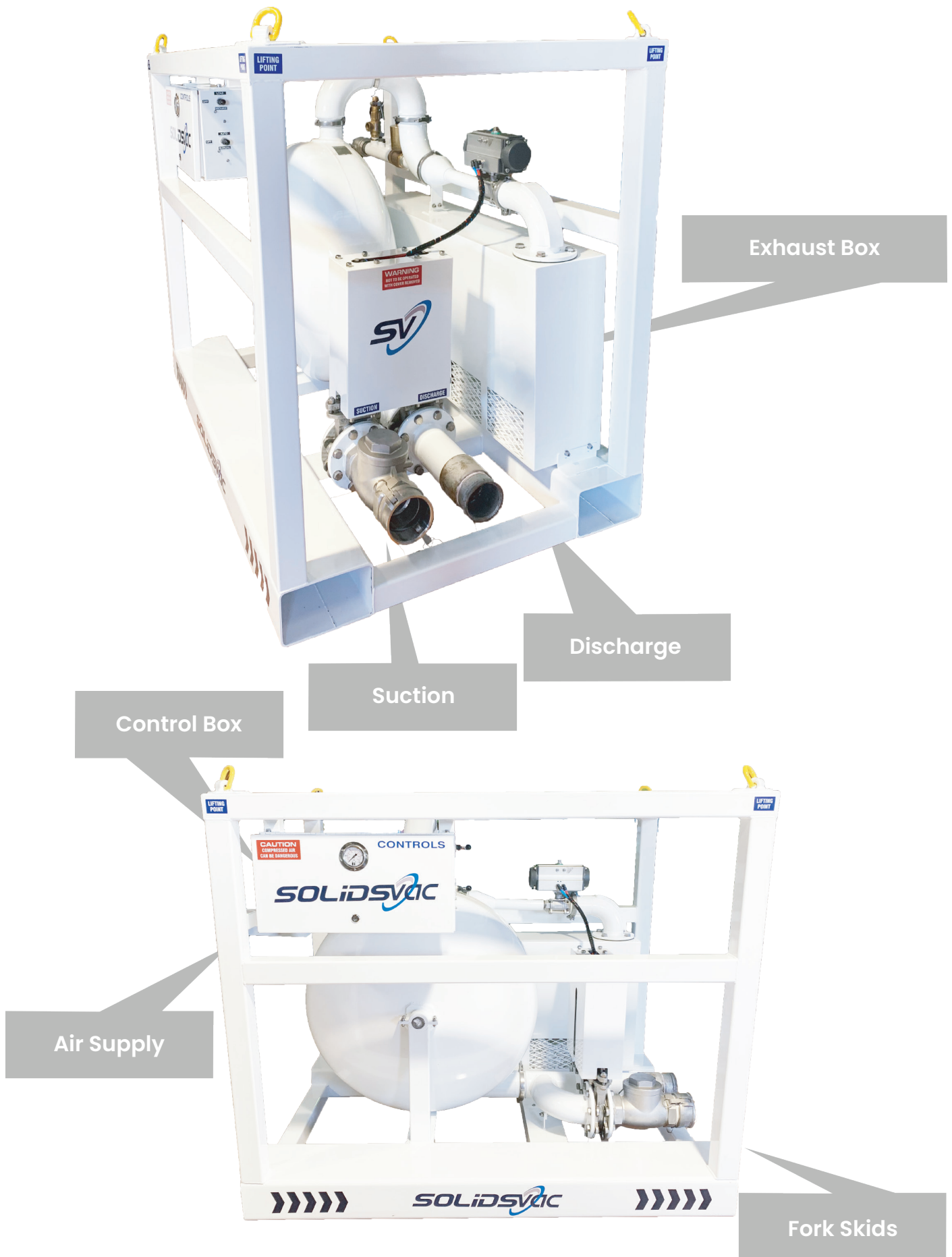
Cycle Control Timers



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

10. MAIN COMPONENTS



Model Number

Serial Number

Date of Manufacture

Inspected by



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