



Sludge / Solids Vacuum Pump
(Pneumatic Conveying for Solids, Sludge and Liquid)

HEBEI GN SOLIDS CONTROL CO.,LTD

1 Sludge Vacuum Pump Introduction

Sludge vacuum pump, also named as solids transfer pump. It is a type of pneumatic pump that sucks the material with vacuum produced by air operation, and then converts to positive pressure for discharging. Most of the solids, sludge and liquid could be transferred by using this pump. With special structure design of no rotating parts in the cavity, it can be used at tough environmental with high working performance and less maintenance. The pump can transfer material with high gravity and high density, solids content max. up to 80%. It has following features: the high efficiency venturi device can produce vacuum up to 25 inch HG (Mercury Column). This is equivalent to vacuum of 85Kpa to suck the material. The pump structure is simple and compact, almost none of wear parts. The transfer distance is up to 500-1000 meters.



(GNSP-40B)



(GNSP-20B/GNSP-10B)

Sludge Vacuum Pump Technical Parameters

Model	GNSP-40B	GNSP-20B	GNSP-10B
Max Capacity	40m³ /h	20m³ /h	10m³ /h
Inlet/Outlet Size	4” (114mm)	4” (114mm)	3” (89mm)
Vacuum Degree	85Kpa/25 inch HG (Mercury Column)		
Max Suction Distance	50m		
Max Discharge Distance	1000m	500m	
Max Solids Content	80%		
Max Solids Size	75mm	50mm	
Pressure Request	550Kpa-785Kpa (80-114PSI)	550Kpa-690Kpa (80-100PSI)	
Air Demand	17m³ /min (600CFM)	8m³ /min(280CFM)	4.3m³ /min(150CFM)
Dimension(LxWxH)	1690 × 1468 × 1983mm	1421 × 900 × 1448mm	1283 × 800 × 1370mm
Weight	892KG	386KG	320KG

2 Sludge Vacuum Pump Features

Product Advantages

- Air operation, no need electric power, suitable for hazardous area application.
- Powerful self-suction with long transfer distance. Suction distance up to 50 meters, discharge distance up to 500-1000 meters.
- Widely application for transferring liquid, wet sludge and solids.
- Transferred solids size Maximum 50mm or 75mm, sludge solids content up to 80%.
- Compact structure for easy to move.
- None of rotating parts inside the cavity, less wearing for long lifetime.
- Automatically and continuously working is available with easy operation and maintenance.



Material transfer applications:

1.Waste mud and waste solids discharged from shale shaker, mud cleaner and centrifuge	2.Drilling mud transfer
3.Waste pit cleaning	4.Hazardous waste recovery
5.Oil sludge, tank bottoms residual removal and transfer	6.Barge holdings and vessel bottom clean out
7.Bulk tank and silo transfer of material	8.Sand; Course, fine, conventional and frac sand
9.Diatomaceous earth	10.Animal waste etc



Scan to see the working video

Working Video: <http://www.gnsolidscontrol.com/sludge-vacuum-pump>

3 Operation Mode Specification

When pump working, the suction and discharge process conduct alternatively. GNSP-40B can work in either automatic mode or manual mode, GNSP-10B and GNSP20B only have automatic mode.

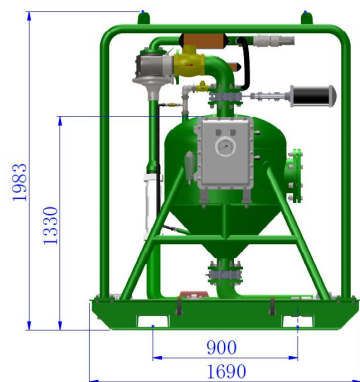
Automatic Mode Working Procedure

- ① Start air supply and choose the automatic mode, then one discharging circulation will proceed. Ensure the cavity is empty before pump starting transferring mode.
- ② Put the suction inlet in to material, make the pump work continuously. Once the cavity is full, operator can identify via the running voice. If manual mode was selected, operator needs to manually discharge empty the cavity.
- ③ If Automatic mode was selected, running the pump for several loops. And then the circulation time could be adjusted accordingly to fit the material condition.
- ④ Check the discharge line if is normally laid, before turning off the pump, keep running the pump for several loops for emptying the cavity.
- ⑤ If automatic mode is selected, operator can leave the pump. Pump running without load will not damage the pump itself. But, if manual mode was selected, operator cannot leave the pump, otherwise the discharge tube would be damaged. Before leaving, operator needs to convert manual mode to automatic mode, and cut the air supply.
- ⑥ Automatic operation is controlled by 2 pneumatic timers. The running time could be adjusted on operator's experience.
- ⑦ The timers are factory set at 10 second Discharge and 10 second Suction (Load), user can adjust later according to material condition.
- ⑧ If the material was wet and easy to transfer, inlet line should be less than 10 meters. If the cavity was easy to be full, shorten the time accordingly. Conversely, extend the time, adjusting time range is 0-30 seconds.

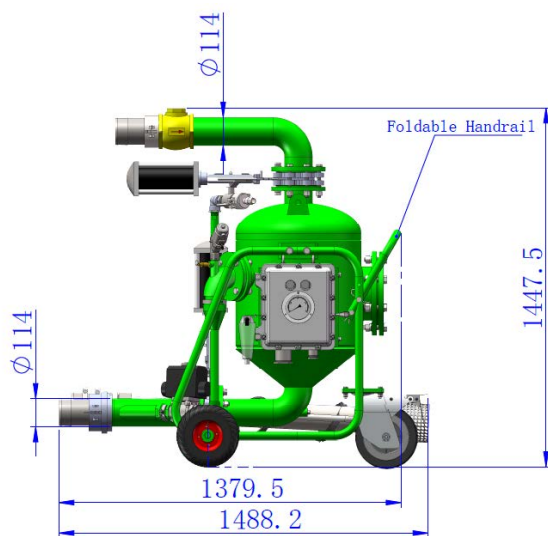
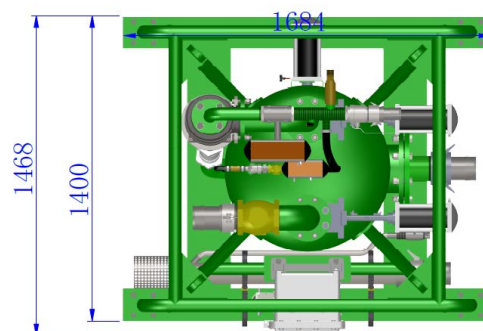
GNSP-40B Manual Mode Working Procedure

- ① Start air supply and select manual mode. Operate via control panel; choose to work under manual mode.
- ② Switch the knob to Discharge position to empty the cavity.
- ③ Put suction inlet into the material, and switch the knob to suction position
- ④ When the cavity is nearly full, switch the knob to discharge position. Once the cavity is empty, switch the knob to off position, hold on for a second.
- ⑤ Once the cavity is empty, switch the knob back to suction position. Repeat above operation till all the material were transferred or set up automatic mode.

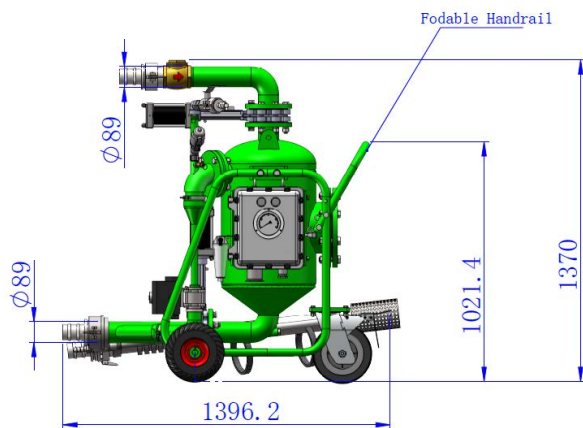
4 Sludge Vacuum Pump Dimensional Drawing Dimension Unit (mm)



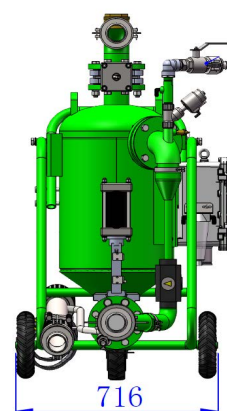
(GNSP-40B)



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