Nash Vacuum Pump Skid	
Mfg: Nash	**Model:**
Stock No. 45.147	**Serial No. 910482-2**

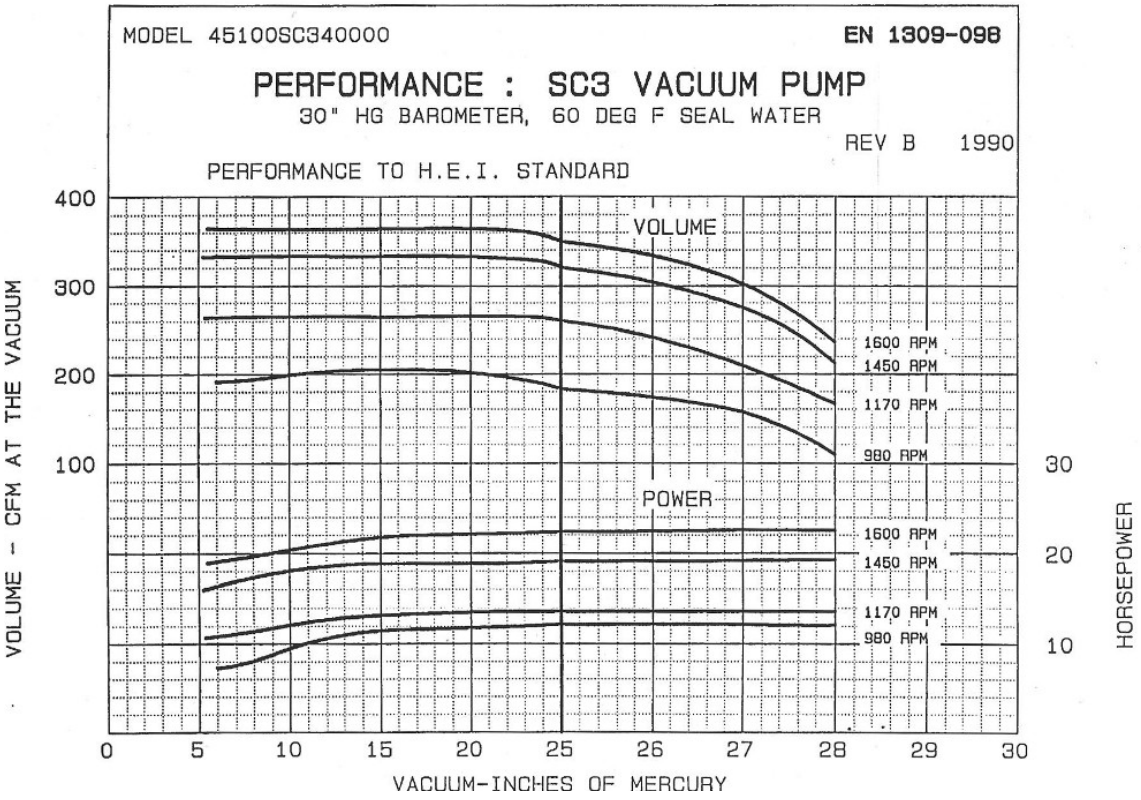
Nash Vacuum Pump Skid.

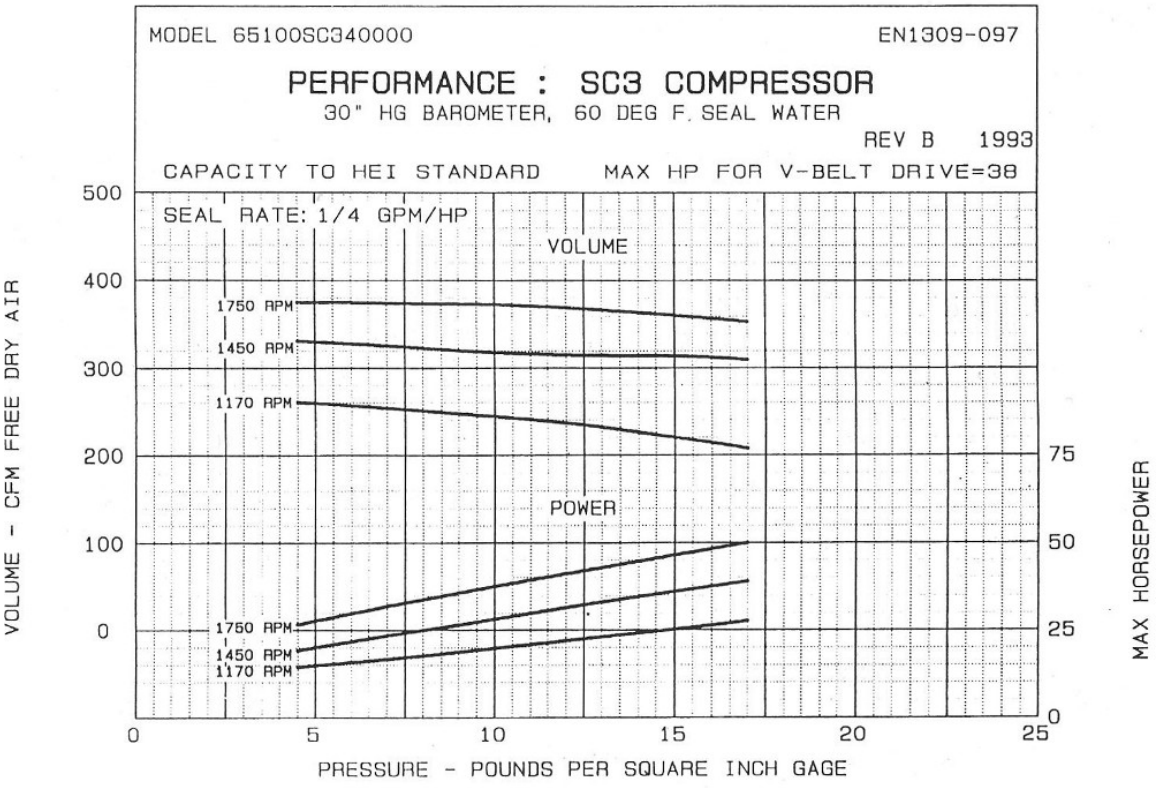
- Original Order Number From Nash: SU79331,
- Master S/N 910482-2,
- Master Part Number: 9106849-VP,
- Item Number: P-2410A, P.O. SC387331ZZ.
- U.S. Electrical Motors, Frame 334T, 15 hp, 3 phase, 230/460 volt, 42/21 amps, 60 hz, rpm 1,175.
- Tank T-2410, National BD & MFG S/N 67624, Max W.P. 35 @ 300 °F., Min DMT 20 °F @ 35 psi.
- Year Built 1992.

Nash SC Series

Range Name	Range Product	Minimum Airflow volume in CFM	Maximum Airflow volume in CFM	Vacuum at Sea Level @(specific vacuum not maximum)	Seal water Required l/min
SC Range	SC3	182.48	353.18	12.33 psi	0-12.33 psi 1.51 gallons/min
SC Range	SC3	182.48	353.18	12.33 psi	12.33-13.78 psi 3.012 gallons/min

NASH® ENGINEERING COMPANY
TRUMBULL, CT 06611-1330




MODEL 65100SC340000
EN1309-097
PERFORMANCE : SC3 COMPRESSOR
30" HG BAROMETER, 60 DEG F. SEAL WATER
REV B 1993
CAPACITY TO HEI STANDARD
MAX HP FOR V-BELT DRIVE=38
SEAL RATE: 1/4 GPM/HP
VOLUME
1750 RPM
1450 RPM
1170 RPM
POWER
1750 RPM
1450 RPM
1170 RPM
500
400
300
200
100
0
75
50
25
0
0
5
10
15
20
25
VOLUME - CFM FREE DRY AIR
MAX HORSEPOWER
PRESSURE - POUNDS PER SQUARE INCH GAGE

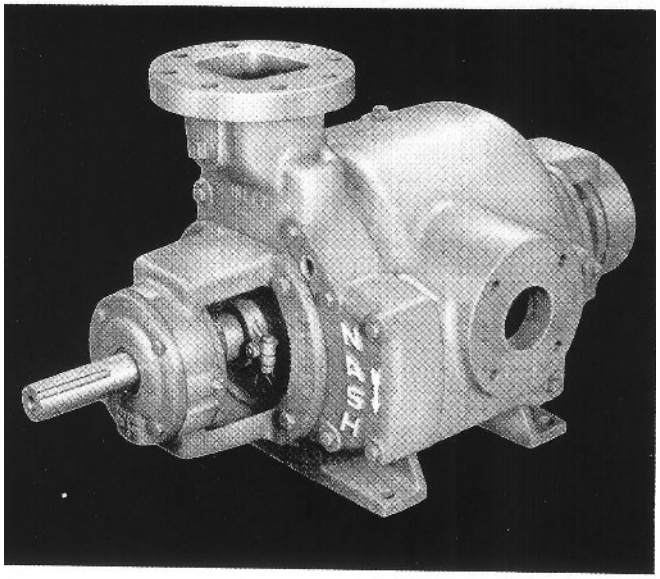
BULLETIN No. 747-G

OPERATION

AND

MAINTENANCE

NASH VACUUM PUMP/COMPRESSOR
SIZES SC-2, SC-3, SC-4, SC-5



NASH® U.S.

A Division of
THE NASH ENGINEERING COMPANY
TRUMBULL, CT 06611-1330

The Performance Meets The Promise®

DESCRIPTION

1-1 About This Bulletin

This bulletin contains information for owners and operators of Nash Vacuum Pumps and Compressors, sizes SC-2, SC-3, SC-4, and SC-5. This information includes a description of how to operate and maintain these units.

Note

For installation information, refer to Bulletin No. 642, Installation Instructions, Nash Vacuum Pumps and Compressors.

The term "pump" in this Bulletin applies to both vacuum pumps and compressors unless otherwise noted.

1-2 How The Unit Works

The main functional assemblies of the Nash SC pump are shown in Figure 1-1. A rotor and shaft assembly in the pump is turned by an external motor. The rotor lies within a chamber that is formed by the casing of a body.

Liquid compressant (usually water), referred to as seal liquid, is applied to the chamber in the body from an inlet through the head and cone. The mixture of liquid compressant and compressed gas is discharged through the pump discharge. Figure 1-2 shows the sequence of actions through the pump. The actions illustrated are made possible by the fact that the axis of the body casing is offset from the axis of the rotor.

The motion of the liquid being rotated in the pump operates as a compressant for the gas in the pump. In addition, the liquid compressant acts as a seal, preventing gas leakage to the atmosphere.

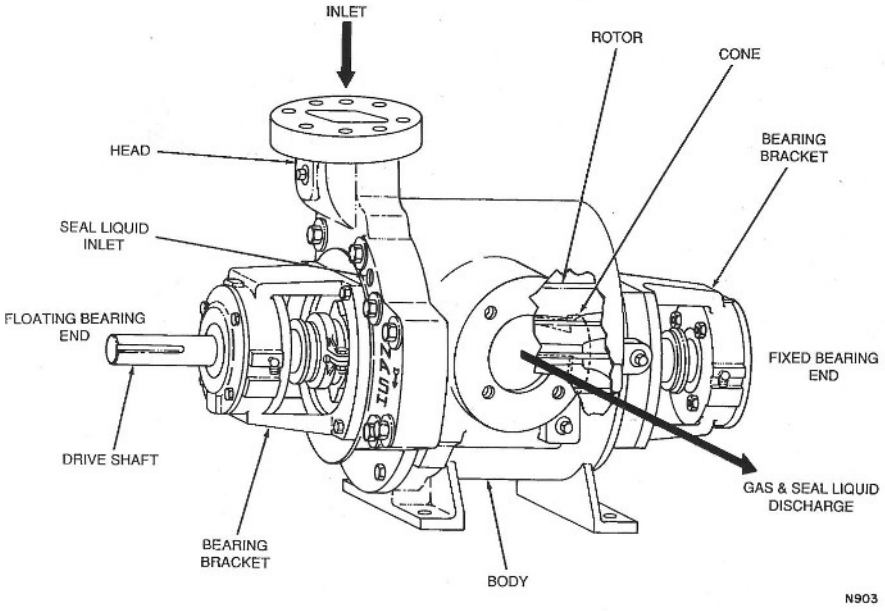


Figure 1-1. Functional Elements of Pump.

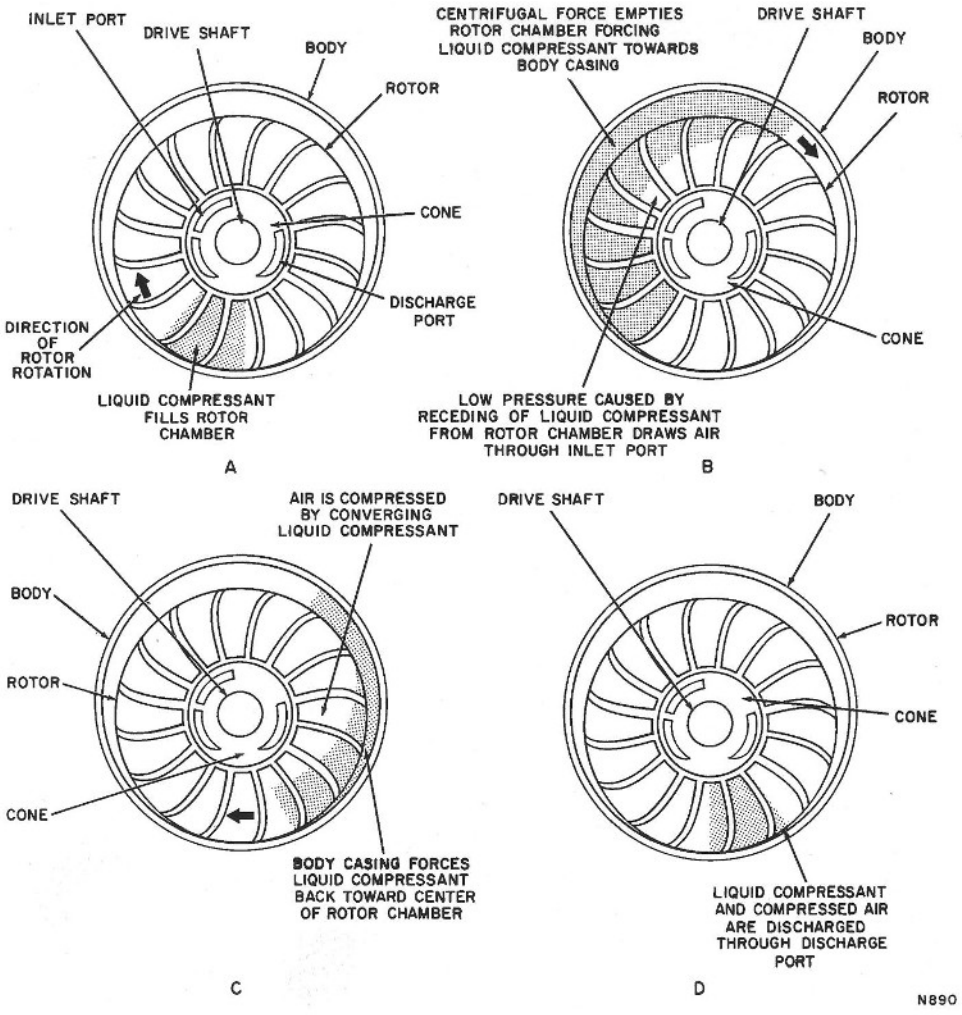


Figure 1-2. Liquid Compressant and Air Flow.

Section 2
OPERATION

2-1 Preparation For Initial Start-Up

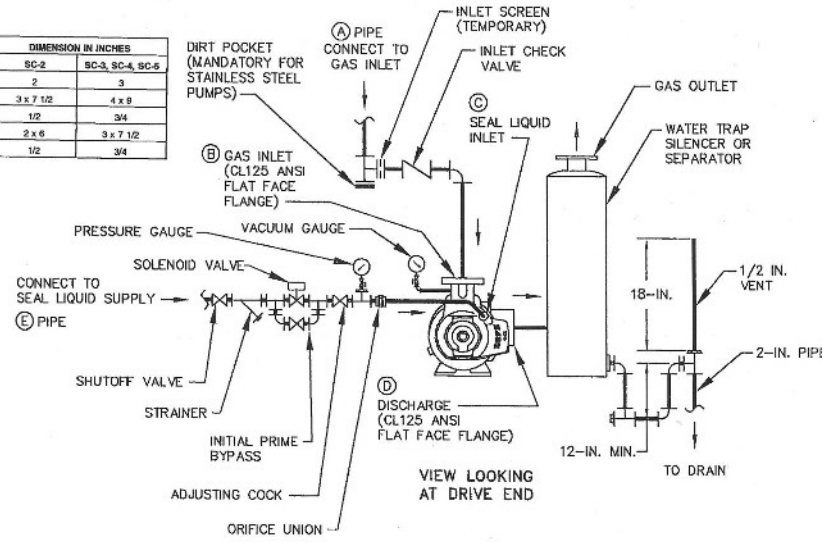
Note

Contact your Nash Representative for start-up assistance.

2-2 Liquid Compressant (Seal Water)

Piping connections must be made to all liquid compressant supply (See Figures 2-1, and 2-2). The usual liquid compressant is fresh water at 60°F (15°C). The flow rate to the pump shall be as specified below. Variations in the flow rate of ± 20% will not damage the pump, but wide variations in flow may alter pump capacity.

DIMENSION/ SIZE	DIMENSION IN INCHES	
	SC-2	SC-3, SC-4, SC-5
A	2	3
B	3 x 7 1/2	4 x 8
C	1/2	3/4
D	2 x 6	3 x 7 1/2
E	1/2	3/4



Note

For Iron Vacuum Pumps:

Pump Size	Pump Speed-RPM	Flow Rate 0 to 25 in. Hg Vac.	U.S.GPM 25 to 28 in. Hg Vac.
SC-2	1450,1750	1 1/2	3
SC-3	2100	3	3
SC-3	980,1170,1450	4	8
SC-3	1600	8	8
SC-4	All	5	10
SC-5	All	5	10

Note

For Stainless Steel and Stainless Steel Fitted Vacuum Pumps:

Pump Size	Pump Speed-RPM	Flow Rate 0 to 25 in. Hg Vac.	U.S.GPM 25 to 28 in. Hg Vac.
SC-2	All	3	6
SC-3	980,1170,1450	4	8
SC-3	1600	8	8
SC-4	All	5	10
SC-5	All	5	10

For Compressors:

Seal liquid flow rate should be approximately **1/4 GPM per HP.**
When using the orifice, cock and gauge configuration, set the seal flow by adjusting the cock until the pressure gauge reads 10psig. This will establish the required flow rate.

For Compressors:

Seal liquid flow rate should be approximately **1/4 GPM per HP.** Seal water flow rates apply for stainless steel as well as iron pumps.
When using the orifice cock, and gauge configuration, set the seal flow by adjusting the cock until the pressure gauge upstream from the orifice reads 10 psig greater than the gauge downstream of the orifice. This will establish the required flow rate.

CAUTION

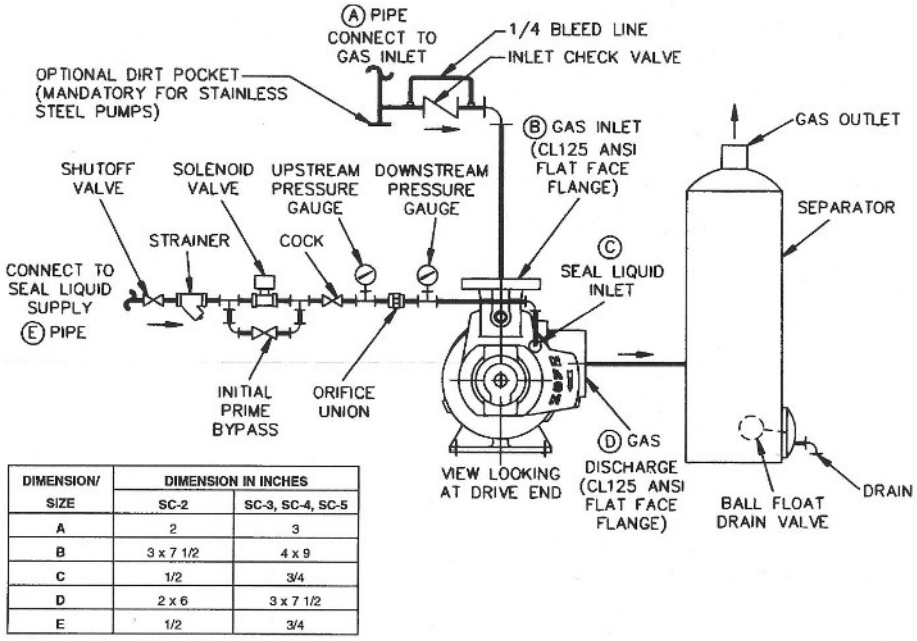
THE LIQUID COMPRESSANT FLOW MUST BE STARTED BEFORE STARTING THE PUMP DRIVE MOTOR, EVEN IF THE PUMP IS ONLY BEING OPERATED TO CHECK THE DIRECTION OF ROTATION.

2-3 Draining and Flushing

Before starting the pump upon completion of alignment (as specified in Bulletin No. 642, Installation Instructions, Nash Vacuum Pumps and Compressors), remove the seal water drain plugs (22-1, Figure 5-12) from the head and body of the vacuum pump. Turn on the shut-off valve for the seal water supply. The pump is flushed with water-soluble preservative oil prior to shipment which will be visible as a cream colored liquid. Allow the seal water to flow from all drains. Close the shut-off valve for the seal water supply. Replace the seal water drain plugs using a pipe thread compound.

2-4 Preliminary Inspection

Perform the following preliminary inspections before starting the pump:



DIMENSION/ SIZE	DIMENSION IN INCHES	
	SC-2	SC-3, SC-4, SC-5
A	2	3
B	3 x 7 1/2	4 x 9
C	1/2	3/4
D	2 x 6	3 x 7 1/2
E	1/2	3/4

Figure 2-2. Typical Compressor Piping Connections.

WARNING

PERFORM ALL OF THE FOLLOWING STEPS IN ORDER TO ENSURE PERSONNEL SAFETY AND EQUIPMENT PROTECTION.

a. Isolate all power sources to the driver unit in order to make certain that no accidental starting occurs.

b. Inspect the pump to make certain that all drain plugs have been properly installed.

c. Manually prime the pump with liquid compressant until there is a flow from the overflow drain.

d. Inspect the separator, the receiver, and the heat exchanger (if used) to make certain that all shipping plug protectors have been removed and that all open connections have been plugged or piped.

e. Inspect all piping to make certain that proper connections have been made to the pump and its basic system in accordance with the Nash installation drawings(s) that have been supplied with the pump. Make certain that all piping is the correct size, securely connected, and properly supported.

f. Check pump and drive hold-down bolts and base or soleplate foundation bolts for tightness.

g. Inspect all other major operational component connections, associated with the pump, to make certain that they are in accordance with the recommendations of their respective equipment manufacturers.

h. Inspect all pump control components (control valves, gauges, etc.) to make certain that they have been positioned in accordance with the Nash installation drawings. Make certain that these components are correctly oriented in the piping scheme in order to achieve the proper direction of flow and functional operation.

i. Inspect the pump inlet to make certain that the inlet screen and clean-out connections have beenproperly made and are free of tools, equipment and debris.

j. Make certain that the liquid discharge connection is free of obstructions.

k. Remove the coupling or V-belt guard and rotate the pump shaft by hand in the specified direction of rotation. The specified direction of rotation is indicated by an arrow cast on the pump body and is illustrated on the installation drawing. THE PUMP SHAFT