



MODELS 500/1000/1500 NITROGEN INFLATION SYSTEMS

Installation, Operation
& Repair Parts
Information



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SAFETY INSTRUCTIONS

- NEVER allow unauthorized personnel to operate this product.
- NEVER use this product for anything other than its intended use.
- THOROUGHLY train new employees in the proper use and care of this product.
- PROHIBIT unauthorized personnel from being in shop area while this product is in use.

DEFINITIONS

- **CAUTION:** Indicates a potentially hazardous situation, which if not avoided, may result in damage to property or minor personal injury.
- **HAZARD:** A source of potential injury to a person.
- **MAINTENANCE:** Those actions that preserve the correct and proper conditions under which the machine shall be used. This may include adjustment, replacement of wear items, lubrication and cleaning, but not modifications or repair of damage.
- **MAY:** This word is understood to be permissive.
- **MUST:** This word is understood to be mandatory.
- **OPERATION:** The correct and proper use of the machine as described in this manual.
- **SAFETY ALERT SYMBOL:** A symbol that indicates a potential personal safety hazard. It is composed of an equilateral triangle surrounding an exclamation point.
- **SHALL:** This word is understood to be mandatory.
- **SHOULD:** This word is understood to be advisory.
- **WARNING:** Indicates a potentially hazardous situation, which if not avoided, may result in death or serious personal injury.

CAUTION

- ◆ Before using this product, read and fully understand the operating instructions and all decals on the product. This is necessary to prevent injury to the operator and damage to the product.
- ◆ Do not attempt to use this product for anything other than its intended purpose.
- ◆ Use of this product should be in a suitably ventilated shop.
- ◆ Operate valves slowly to prevent damage to coalescing filter.
- ◆ Use of this product is only permitted in places free from explosion or fire hazard.

SPECIFICATIONS

Max Compressed Air Supply	175 psi (10.3 to 12.0 bar)
Dimensional data	19 x 19 x 72.50 in (48 x 48 x 184 cm)
Weight	Model 500 185 lbs (84 kgs)
	Model 1000 210 lbs (95 kgs)
	Model 1500 235 lbs (107 kgs)

Specifications shown below are at an air temperature of 75° F (24° C) and a supply air pressure of 160psi (11.0 bar). These specifications are intended to be a baseline to result in the production of 95% pure Nitrogen. The output flow of Nitrogen has been pre-set to 7.1 scfm (11.4 Nm³/hr) per membrane. Changes to air temperature, supply air pressure or supply air flow will change the result of Nitrogen purity.

Model #	Supply Air Pressure		Supply Air Flow		Maximum Output N ₂ Flow		N ₂ Purity
	psi	bar	scfm	Nm ³ /hr	scfm	Nm ³ /hr	
500	160	11.0	13.8	22.2	7.1	11.4	95%*
1000	160	11.0	27.6	44.4	14.2	22.8	95%*
1500	160	11.0	41.4	66.6	21.3	34.2	95%*

* These are minimum settings. The purity can be increased by rotating the purity adjustment dial clockwise

Change	Note	Result
When supply air temperature increases	Supply air flow requirement will increase	Nitrogen Purity increases
When supply air pressure increases		
When supply air flow decreases	N ₂ output flow will decrease	
When supply air temperature decreases		
When supply air pressure decreases	N ₂ output flow will remain the same	Nitrogen Purity decreases
When supply air flow increases		
Rotating purity adjustment dial clockwise	N ₂ output flow will decrease	Increase Purity
Rotating purity adjustment dial counter-clockwise	N ₂ output flow will increase	Decrease Purity

INTENDED USE

The Nitrogen Inflation System is a pneumatic device designed to generate deoxygenated air for the purpose of inflating vehicle tires.

INSTALLATION INSTRUCTIONS

1. Unpack and remove unit from shipping carton and pallet.
2. Inspect the unit for any visible damage.
3. Make sure the installation location is free from explosion or fire hazard and is a suitably ventilated; otherwise, ventilate the area periodically during use of the equipment.
4. Make sure the plumbing from the air compressor to the Nitrogen Generator is made of an appropriately rated copper, steel or aluminum and is at least 30 ft. in length.
5. Install on a solid level floor.
6. Anchoring the unit to the floor is not required but is recommended. Utilize the two holes in the base plate to anchor the unit.
7. Connect the **air** supply line to the inlet on the back of the unit.
8. Connect the **nitrogen** supply line to the deoxygenated air outlet on either side of the unit.
9. Plug in the power cord to a 110/120 Volt outlet.
10. Slowly open ball valve at the inlet on the back of the unit.

NOTE:

The Nitrogen generator has a filter system that captures oil, water and other contaminants. However, if your air supply system generates an excessive amount of water, etc., it may be desirable to install an air dryer.

NOTICE:

The presence of any oil in the Nitrogen Membrane will void the manufacturer's warranty.

OPERATING INSTRUCTIONS

Turning the Nitrogen Generator ON

1. *Slowly* rotate ball valve at the back of the unit, from the closed position to the open position.
2. Rotate switch on the front of the unit, from the "OFF" position to the "ON" position.
3. When the N₂ storage tank pressure reaches 160 psi, an automatic shut-off valve will stop the flow of air to the nitrogen generator. *This is done to prevent unnecessary use of the air compressor.*
4. When the N₂ storage tank pressure drops to 145 psi, the automatic shut-off valve will open back up and allow air flow thru the nitrogen generator.
5. To sample the nitrogen purity the nitrogen generator is producing, use the optional nitrogen analyzer and check it at the N₂ sampling port (front panel) just as you would check a nitrogen filled tire.

NOTE: After the nitrogen line is pressurized or the N₂ storage tank is filled, vehicle tires can then be inflated.

Turning the Nitrogen Generator OFF

1. *Slowly* rotate ball valve at the back of the unit, from the open position to the closed position.
2. Rotate switch on the front of the unit, from the "ON" position to the "OFF" position.

PURITY ADJUSTMENT INSTRUCTIONS

Your Nitrogen generator is equipped with a purity adjustment dial. Nitrogen purity is set to a minimum of 95%. To increase Nitrogen purity, rotate the purity adjustment dial clockwise. Maximum travel of the dial will be approximately 360°.

NOTE: Increasing Nitrogen purity will decrease your Nitrogen flow.

To decrease Nitrogen purity, rotate the purity adjustment dial counter-clockwise. The line on the face of the dial is the position indicator.

MAINTENANCE

NOTE: To avoid personal injury or damage to the Nitrogen Inflation System, permit only qualified personnel to perform maintenance. **When cleaning or replacing filter elements and automatic float drains, shut off the supply air by closing the ball valve at the back of the unit. Press the pressure relief button on the front panel to exhaust all trapped air. You can now service the filters.**

See repair parts breakdown for replacement parts.

ALWAYS: **Keep Nitrogen Inflation System clean.**

DAILY: **Check the automatic float drain on all filters for proper operation.**

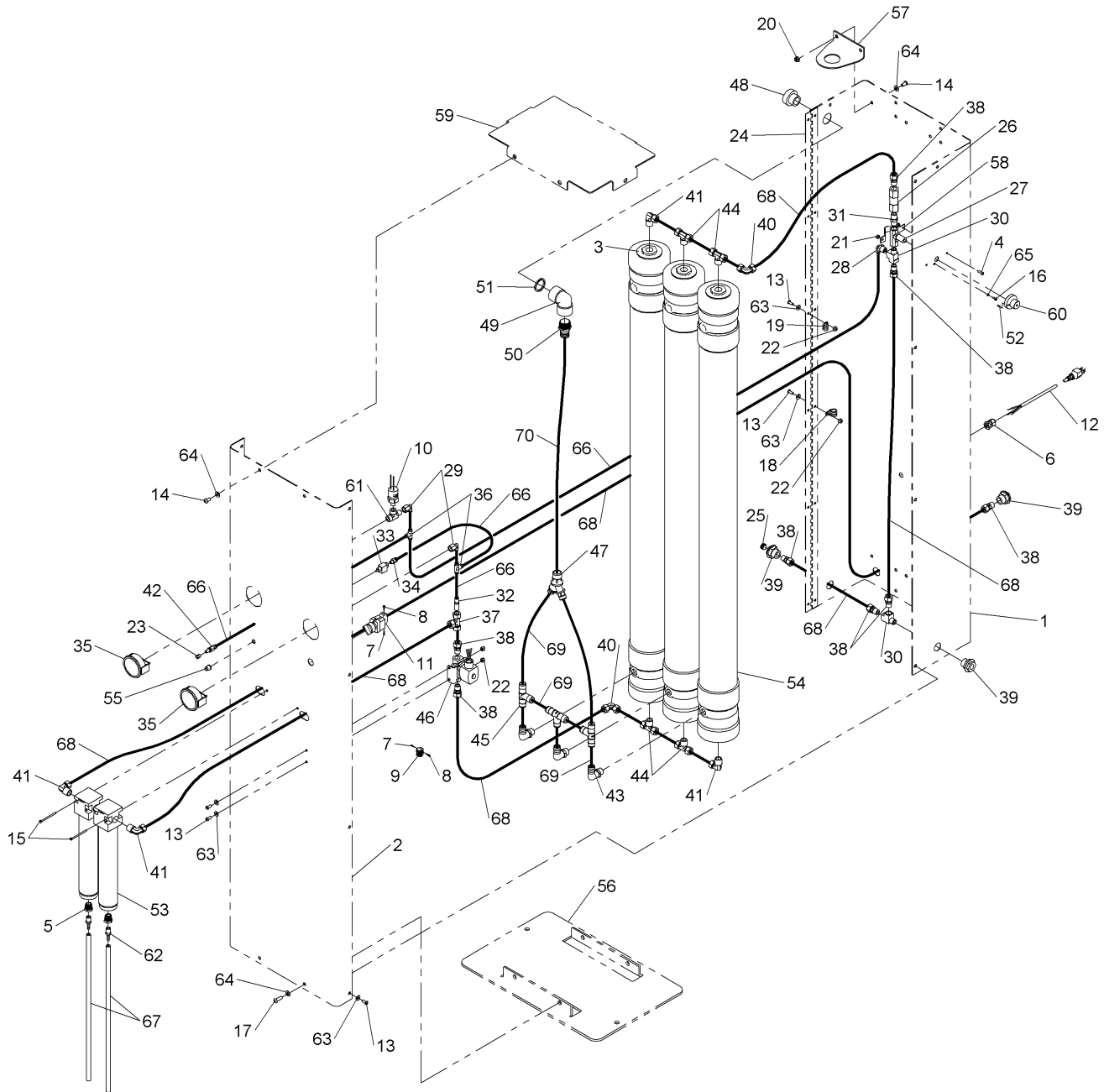
If the automatic float drain should become stuck open or inoperable, shut off the air supply (see NOTE above). Before servicing let the pressure bleed off from the filter. Remove the bottom cap from the bottom of the filter. The drain can be cleaned in hot soapy water. DO NOT attempt to disassemble the drain. If the drain is still inoperable after cleaning, it will have to be replaced. When installing a new drain, make sure the o-ring is installed on the bottom stem before screwing it into the bottom cap. Finger tighten only.

WEEKLY: **Clean the automatic float drain on both filters.**

See above.

BI-YEARLY: **Clean particulate filter element and replace coalescing element.**

REPAIR PARTS



ITEM	QTY	PART NO.	DESCRIPTION
1	1	06-0216	BACK PANEL
2	1	06-0217	FRONT PANEL
3	6	10-0031	ADHESIVE FOAM PAD
4	2	028-155	#10-24 X 5/8 RD HD SCREW
5	2	039-008	1/2 TO 1/4 PIPE BUSHING
6	1	40-0083	POWER CORD GRIP
7	8	40-0084	18 AWG WIRE FERRILE
8	2	40-0085	18 AWG 2-WIRE FERRILE
9	1	40-0086	STRIP CONNECTOR
10	1	41-0040	PRESSURE SWITCH WITH HARNESS
11	1	41-0041	SELECTOR SWITCH
12	1	42-0026	POWER CORD
13	18	50-0125	1/4-20 X 5/8 SOC BTN HC SCREW
14	18	50-0126	5/16-18 X 5/8 SOC BTN HC SCREW

ITEM	QTY	PART NO.	DESCRIPTION	
15	2	50-0137	#8-32 X 2-1/2" PPHM SCREW	
16	1	50-0148	#8-32 X 3/8 HSH CAPSCREW	
17	4	50-0154	5/16-18 X 1 SOC BTN HC SCREW	
18	1	53-0035	1/2" ID LOOP CLAMP	
19	1	53-0036	3/8" ID LOOP CLAMP	
20	12	055-105	5/16-18 SF HEX LOCK NUT	
21	2	055-127	#10-24 NYLON HEX LOCK NUT	
22	14	055-160	1/4-20 NYLON HEX LOCK NUT	
23	1	59-0021	CHROME VALVE STEM CAP	
24	1	59-0086	HINGE	
25	1	60-0074	3/8 NPT PLUG	
26	1	60-0114	CHECK VALVE	
27	1	60-0115	FLOW CONTROL VALVE	
28	1	60-0120	3/8 NPT M X 1/4 TUBE ELBOW	
29	2	60-0124	1/4 NPT FEM X 1/4 TUBE ELBOW	
30	2	60-0132	3/8 NPT STREET TEE	
31	1	60-0134	3/8 NPT HEX NIPPLE	
32	1	60-0139	REDUCER	
33	1	60-0140	2-WAY VALVE	
34	1	60-0146	1/8 NPT M X 1/4 TUBE CONN	
35	2	60-0167	300 PSI GAUGE	
36	2	60-0171	1/4 TUBE UNION TEE	
37	1	60-0176	1/2 TUBE UNION TEE	
38	8	60-0177	3/8 NPT M X 1/2 TUBE CONN	
39	3	60-0178	3/8 NPT X 1-14 STR BHD CPLG	
40	2	60-0180	1/2 TUBE UNION ELBOW	
41	4	60-0181	1/2 NPT M X 1/2 TUBE ELBOW	
42	1	60-0196	SCHRADER BULKHEAD VALVE	
43	3	60-0198	1/2 NPT M X 3/4 BARB ELBOW	
44	4	60-0202	1/2 NPT M X 1/2 TUBE BRANCH TEE	
45	3	60-0203	3/4 BARB TEE	
46	1	60-0326	SOLENOID VALVE	
47	1	60-0334	1 X 3/4 BARB REDUCER WYE	
48	1	60-0335	1 NPT BREATHER VENT	
49	1	60-0336	1 NPT FEM ELBOW	
50	1	60-0337	1 NPT M X 1 BARB ADAPTER	
51	1	61-0039	1-3/8 ID X 1-5/8 OD SQ O-RING	
52	1	061-059	1/8 X 3/8 SPRING PIN	
53	1	64-0016	FILTER ASSEMBLY	
54	3	64-0033	MEMBRANE SEPARATOR	
55	1	69-0029	CAPTIVATED PUSH BUTTON	
56	1	71-0359	BASE PLATE	
57	6	72-0194	MEMBRANE BRACKET	
58	1	72-0209	NEEDLE VALVE BRACKET	
59	1	72-0454	TOP PLATE	
60	1	73-1100	PURITY ADJUSTMENT DIAL	
61	1	096-155	1/4 NPT STREET TEE	
62	2	096-192	1/4 NPT M X 1/4 BARB ADAPTER	
63	18	108-110	1/4 SAE FLAT WASHER	
64	22	108-123	5/16 SAE FLAT WASHER	
65	3	108-168	#8 LOCK WASHER	
66	-	D20-002	1/4 OD (GREEN) TUBE	
67	-	D20-011	1/4 ID PVC TUBE	
68	-	D20-031	1/2 OD (BLACK) TUBE	
69	-	D20-032	3/4 ID PVC TUBE	
70	-	D20-038	1 ID PVC TUBE	
71	1	64-0017	FILTER ELEMENT	*
72	1	64-0021	MESH FILTER ELEMENT	*
73	2	69-0020	AUTO FLOAT DRAIN	*
<i>Quantities shown are for the Model 1500 Nitrogen Tire Inflation System.</i>				

* Items not shown