

TECHNICAL INFORMATION

Installation, Operation and Maintenance

Parker Balston NitroPack™ Models 76-97 and 76-98



Figure 1 - Model 76-97 and 76-98 UHP Nitrogen Generator



These instructions must be thoroughly read and understood before installing and operating this product. Failure to operate this product in accordance with the instructions set forth in this manual and by other safety governing bodies will void the safety certification of this product and jeopardize the safety of the operator. Modification of the unit will result in voiding the warranty.

If you have any questions or concerns, please call the Technical Services Department at 800-343-4048 8AM to 5PM Eastern Time (North America only) or email at balstontechsupport@parker.com. For other locations, please contact your local representative.

Please save product packaging for future use.

General Description

The Parker Balston 76-97 and 76-98 NitroPack Generators (see Figure 1) are completely engineered systems capable of purifying compressed ambient air into ultra high purity (UHP) nitrogen. The systems are engineered to replace the use of high-pressure gas cylinders as a source of UHP nitrogen. The 76-98 NitroPack is equipped with a catalytic oxidizer, which makes this the generator of choice for supplying carrier gas to GC-AEDs and purge gas to an ICPS, especially for low wavelength applications. Usage for the 76-97 NitroPack includes blanketing gas for Sequencing and Synthesis Equipment, and many other analytical laboratory instrumentation.

On-site clean compressed air is purified using the 76-98 model by removing total hydrocarbons (THC), carbon monoxide (CO), water vapor, carbon dioxide (CO₂), and oxygen (O₂) down to part per million (ppm) levels. The 76-97 model removes all the same contaminants as the 76-98 with the exception of hydrocarbons, which it does not remove.

Regulatory Compliance

These products are certified to the electrical safety requirements as specified by the IEC, CSA, and UL standards, and meets EMC compliance. These units bear the CSA marking on the product label. Product supplied to Europe carries the CE mark (230 VAC units only).

Component Description

Engineered System

The Parker Balston Nitrogen Generator is composed of four component groups: prefiltration, HC removal (76-98 only), air drying/CO₂ removal/O₂ removal, and final filtration (see Figure 2). Integrated diagnostics aid in the determination of product performance (indicated by lights located on the front panel).

The systems are designed to run continuously, providing 5 liters per minute (LPM) of ultra-high purity nitrogen (99.9999% with respect to oxygen) as long as the units are supplied with a minimum of 100 psig of compressed air. The oxygen content in the nitrogen varies as a function of both the inlet pressure and the outlet flow rate (see Operating Conditions/System Specifications table).

Prefiltration

Two high efficiency coalescing filters are integrated into the Parker Balston 76-97 and 76-98 to remove water, oil and particulate contamination from the compressed air supply. The inlet prefilters are equipped with automatic float drains to eliminate any liquids that have accumulated in the filter housings.

Internal Filtration

Three grade BX Parker Balston particulate filters are incorporated into the 76-98 design to protect internal components from particulate contamination from both the catalyst tower and the PSA towers. The 76-97 has only the two BX particulate filters for the PSA towers.

Hydrocarbon Removal (Model 76-98 only)

An oxidation catalyst is used to convert hydrocarbons, including methane and carbon monoxide into carbon dioxide and water. It is located upstream from the PSA towers to ensure the production of ultra-high Purity Nitrogen is not compromised. The catalyst is housed in a temperature-controlled assembly that maximizes the conversion of all hydrocarbons in the compressed air, to less than 0.1 ppm.

O₂/H₂O/CO₂ Removal

Pressure swing adsorption (PSA) technology is used to reduce the oxygen, water and carbon dioxide content in the compressed air. The PSA system utilizes two sets of adsorbent beds; as one set of beds adsorbs oxygen, water, and carbon dioxide, the other set purges these contaminants to the atmosphere.

Final Filtration

The final filter on both the Parker Balston 76-97 and 76-98 is a Parker Balston Grade GS membrane filter that removes particulate contamination to 0.01 micron (absolute). This final filter insures that the outlet nitrogen is virtually particle-free.

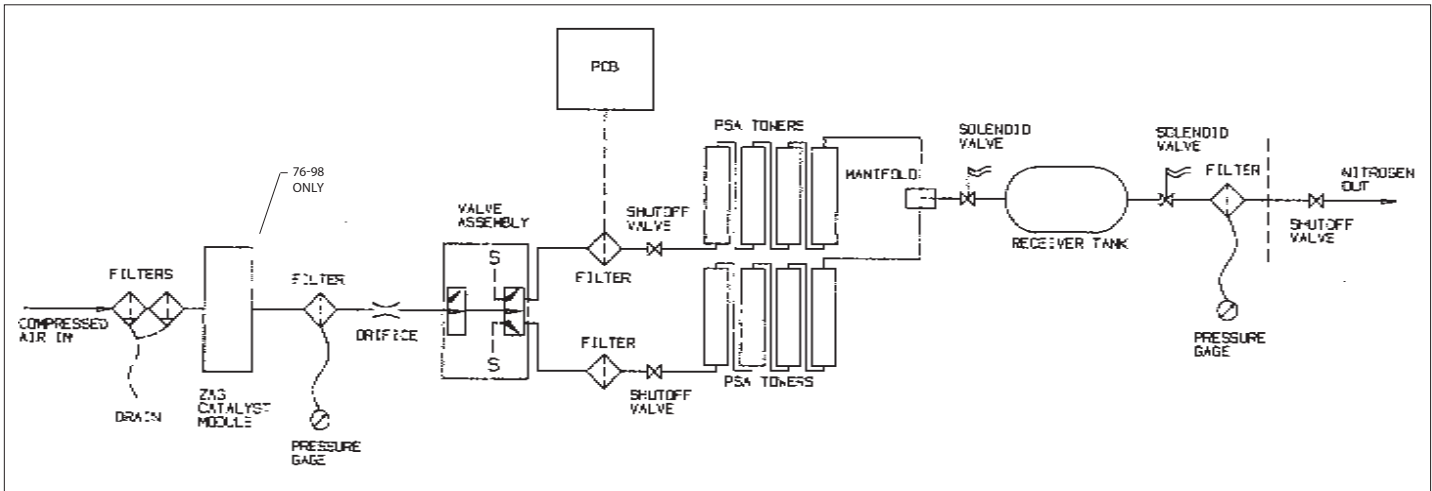


Figure 2 - Model 76-98 Flow Schematic
(Model 76-97 does not include the ZAG Catalyst Module Assembly)

General



Note: All installation, operation and maintenance activities for the Parker Balston 76-9 or generator should be performed by suitable personnel using reasonable care.

76-98

Location

Install the generator in a clean, well-ventilated area. A minimum clearance distance of 18 inches on each side and on the top of the unit is required to provide adequate ventilation for the generator. The generator should be located in an area where the ambient temperature is between 60°F and 90°F (16°C and 32°C) to ensure optimal operation. Do not install the unit outdoors.

There is no limitation on the distance between the generator and the analyzer it is supplying as long as the tubing size, cleanliness and pressure drop are taken into account.

The noise generated by the unit should be considered when selecting an installation location. The noise generated by the unit when the valves switch is approximately 65 dBA at 1 meter. The noise level immediately drops to <60 dBA after the valves switch.

Compressed Air

The 76-97 and 76-98 require a source of clean, dry compressed air for optimal operation. The dew point of the compressed air should be 60°F (15°C) or less and at a pressure between 60 psig and 120 psig. The inlet pressure gauge on the generator should be used to determine the inlet pressure to the unit to rule out any pressure drops between the compressed air supply and the generator. The compressor must be able to supply a minimum flow rate of 4 SCFM (115 lpm). The internal diameter of the compressed air supply should be a minimum of 1/4".



The 76-98 will be damaged by a variety of solvents and elements stored or used near the compressor inlet. Chlorinated solvents and chloro-fluorocarbons will damage components downstream of the catalyst module, as will high levels of NO_x and SO₂. High concentrations of sulfur, lead, phosphorous, and other heavy metals will contaminate the catalyst.

Recommended Piping

The 1/4" female NPT inlet and outlet ports are located on the right side of the generator. Inlet tubing and fittings should be clean and rated for 125 psig minimally. A manual shutoff valve and pressure regulator (both customer supplied) should be installed upstream from the generator inlet port (see Figure 3). The valve can be used for isolating the compressed air from the generator during routine maintenance or troubleshooting activities. A pressure regulator is needed to insure that the inlet air pressure is constant, and remains between 60 and 120 psig.

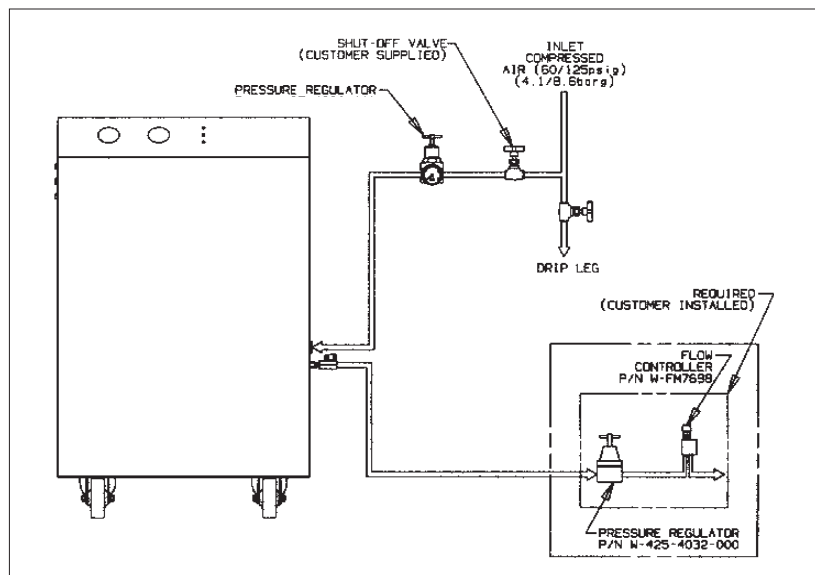


Figure 3 - Recommended Installation

The outlet tubing downstream from the generator should be clean stainless steel or pre-cleaned refrigeration-grade copper tubing rated for a minimum of 125 psig. Do not use plastic or rubber tubing downstream from the generator. Out-gassing from plastic or rubber tubing can contaminate the nitrogen. Use PTFE tape on all NPT fittings, as thread-sealing compounds will also contaminate the nitrogen gas stream. A manual shutoff valve is supplied with the unit and should be installed on the outlet port (See Figure 4) using two adjustable wrenches. Note: Be sure to close the valve for the duration of the start-up period. Figure 4 shows the valve in the open position.

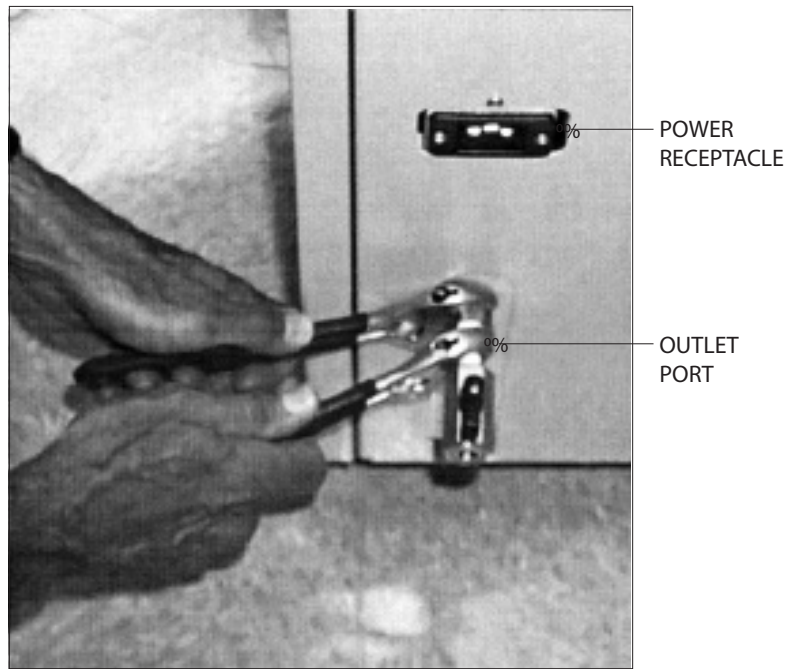


Figure 4 - Installation of manual valve to the top port, the Outlet, located on the right side of the unit.

The pressure of the gas exiting the nitrogen generator will fluctuate with the PSA cycle. If the outlet flow for a given inlet pressure is exceeded, the nitrogen purity will be adversely affected. Therefore, a pressure regulator and flow controller must be installed between the nitrogen generator and the point of use unless these devices are incorporated into the downstream equipment (see Figure 3). High purity components should be used to eliminate the possibility of introducing contaminants from elastomer seals into the gas stream.

The drain port is located inside the generator on the bottom left hand side of the chassis. The 1/4" diameter plastic drain line attached to the compressed air prefilter assembly is coiled inside the generator. Remove the left side panel by using a Phillips head screwdriver to remove the two screws in the top corners. Push the drain line through the grommet on the drain port (Figure 5). Pipe the drain line to a container appropriate for water and compressor oil disposal.



Figure 5 - Push the 1/4" plastic tubing through the black grommet on the bottom of the chassis

Power

A 120 VAC, 20 Amp, 50/60 Hz power supply line is required to operate the Parker Balston 76-98 nitrogen generator. The 76-98 -220 requires 230 VAC, 12 Amps, and 50/60 Hz. Neither the 76-97 nor 76-97-220 is equipped with a catalytic oxidizer; therefore, their power requirements are reduced to 0.1 amps and 0.06 Amps respectively.

There is no power switch on the generator. To turn the generator on, plug the female end of the electrical cord into the power receptacle on the right side of the generator and plug the opposite end into a nearby three-pronged earth-grounded receptacle (see Figure 4 for location of power receptacle).

Start-up



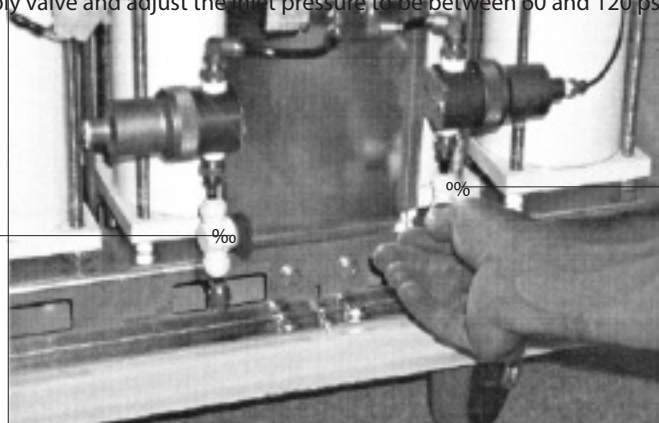
NOTE: The start-up period for the generator is 5 hours after the compressed air and power have been supplied to the generator.

Note: Make sure the outlet valve is closed for the duration of the start-up period.

Prior to shipment from the factory, the PSA towers are pressurized with high purity nitrogen to prevent contamination from the atmosphere. A pair of 2-way valves seal the nitrogen in the towers. Before starting the generator, remove the right side panel and open the 2-way valves (see Figure 6). Replace the panel.

Open the inlet air supply valve and adjust the inlet pressure to be between 60 and 120 psig using a custom-

VALVE #1 IN OPEN POSITION



VALVE #2 IN CLOSED POSITION

Figure 6 - Open both two-way valves for the outlet of the PSA towers

er installed pressure regulator (see Accessories section and Figure 2 for recommended installation). The compressed air inlet pressure is also shown on the front panel of the generator. Plug the generator into the appropriate power receptacle.

Once the compressed air is connected and the generator is plugged in, the 76-97, 76-98 will take five hours to start up. There will be no receiver pressure during the 5-hour start-up period. At the end of the start-up period, the green "System Ready" light will turn on and the receiver pressure will increase.

Open the outlet 2-way valve (see Figure 4) only after the 5-hour start-up period has ended. Do not purge the outlet tubing downstream from the generator with nitrogen unless a flow controller is installed in line or at the instrument (see Figure 3). Check all the downstream plumbing for leaks using a bubble-type leak detecting solution to ensure the nitrogen purity meets specification.

Operation

Diagnostics

The generator is fully equipped with on-board diagnostics located on the front panel.

System Ready - The "System Ready" light (green) will illuminate when the generator has completed the 5-hour start-up period. When the "System Ready" light turns on, the internal solenoid valves open and the receiver pressure increases.

System Check - The "System Check" light (yellow) will turn on and the audible alarm will beep if the inlet supply pressure is below 60 psig (according to the inlet pressure gage on the generator). After the inlet pressure is increased to a minimum of 60 psig, it will take up to 4 minutes for the alarm to cease, the "System Ready" light to turn on, and the flow to resume. If the compressed air pressure is below 60 psig for a period exceeding 40 minutes, the 5-hour start up routine will commence after the pressure is corrected. The "System Check" alarm is also activated if the PSA valve fails to switch.

Service System - The "Service System" light (yellow) will illuminate and an alarm will beep if there is a temperature fault in the catalyst module of the 76-98. This feature is disabled in the 76-97 because it does not contain a catalyst module.

Inlet Pressure Gauge - The "Inlet Pressure" gauge displays the pressure of the compressed air being supplied to the generator.

Receiver Pressure Gauge - The "Receiver Pressure" gauge shows the pressure swing within the internal receiver tank. This pressure swing is a function of both the compressed air inlet pressure and the outlet nitrogen flow demand. By monitoring the receiver pressure swing, the user can determine if there is an overflow condition downstream from the generator. An overflow condition would adversely affect the purity of the nitrogen supply. See Receiver Pressure Swings listed in the System Specification Chart (in the Operating Conditions section) to determine purity level.

Power Interruptions

If the electrical power to the generator is interrupted for less than 20 minutes, the system will deliver nitrogen at the rated flow and purity when the power returns. If the power is interrupted for a period of up to 40 minutes, the generator will go into a 1-hour start up cycle when power returns. If the power interruption exceeds 40 minutes, the 5-hour start up cycle will commence when power returns.

Shutdown

Close the inlet air valve. Wait 5 minutes to let the PSA towers purge, close the pair of PSA 2-way valves located inside the unit (Figure 6), and the 2-way outlet valve located on the outside of the unit (Figure 4). Pull the power plug to shut down the generator.



NOTE: If the PSA 2-way valves are not closed in the manner just described, the PSA towers may be poisoned and the warranty will be void.

Operating Conditions

Nitrogen Purity

The system is designed to run continuously at 5 LPM, however it may be used at other outlet flows. The purity of the nitrogen is dependent upon both the inlet air pressure and the outlet flow from the generator. Refer to the chart below for the operating conditions necessary to meet the desired specifications.

System Specifications

Inlet Pressure (1)	Receiver Pressure	Outlet Flow	Max Outlet Pressure	O ₂ Concentration
120 psig	65 to 88 psig	12 lpm	60 psig	≤ 40 ppm
120 psig	73 to 93 psig	10 lpm	70 psig	≤ 15 ppm
120 psig	78 to 100 psig	8 lpm	75 psig	≤ 5 ppm
120 psig	84 to 102 psig	6 lpm	80 psig	≤ 1 ppm
120 psig	86 to 103 psig	5 lpm	83 psig	< 1 ppm
110 psig	58 to 81 psig	12 lpm	55 psig	≤ 76 ppm
110 psig	65 to 85 psig	10 lpm	60 psig	≤ 25 ppm
110 psig	70 to 91 psig	8 lpm	65 psig	≤ 6 ppm
110 psig	76 to 94 psig	6 lpm	70 psig	≤ 2 ppm
110 psig	78 to 95 psig	5 lpm	73 psig	< 1 ppm
100 psig	50 to 69 psig	12 lpm	45 psig	≤ 150 ppm
100 psig	56 to 76 psig	10 lpm	50 psig	≤ 50 ppm
100 psig	62 to 81 psig	8 lpm	55 psig	≤ 16 ppm
100 psig	68 to 84 psig	6 lpm	60 psig	≤ 2 ppm
100 psig	70 to 86 psig	5 lpm	63 psig	< 1 ppm
90 psig	47 to 62 psig	10 lpm	45 psig	≤ 110 ppm
90 psig	53 to 70 psig	8 lpm	50 psig	≤ 25 ppm
90 psig	58 to 74 psig	6 lpm	55 psig	≤ 5 ppm
90 psig	62 to 77 psig	5 lpm	58 psig	≤ 2 ppm
90 psig	65 to 79 psig	4 lpm	62 psig	< 1 ppm
80 psig	45 to 58 psig	8 lpm	40 psig	≤ 60 ppm
80 psig	50 to 63 psig	6 lpm	45 psig	≤ 10 ppm
80 psig	55 to 68 psig	5 lpm	48 psig	≤ 5 ppm
80 psig	59 to 70 psig	4 lpm	51 psig	≤ 1 ppm
70 psig	39 to 50 psig	8 lpm	35 psig	≤ 120 ppm
70 psig	44 to 56 psig	6 lpm	40 psig	≤ 25 ppm
70 psig	46 to 58 psig	5 lpm	43 psig	≤ 5 ppm
70 psig	49 to 60 psig	4 lpm	46 psig	≤ 2 ppm
70 psig	55 to 64 psig	2 lpm	50 psig	< 1 ppm
60 psig	36 to 46 psig	6 lpm	33 psig	≤ 75 ppm
60 psig	38 to 49 psig	5 lpm	35 psig	≤ 20 ppm
60 psig	42 to 52 psig	4 lpm	39 psig	≤ 5 ppm
60 psig	45 to 54 psig	2 lpm	42 psig	≤ 1 ppm

(1) Inlet Pressure refers to the pressure read off the unit from the Inlet Pressure gauge. The required pressure from the compressor will be greater.

Suitable personnel using reasonable care should perform all maintenance activities for the Parker Balston NitroPack™ generator.



Before servicing the Parker Balston 76-97 or 76-98, isolate the unit from the compressed air and allow the generator to run for 5 minutes to depressurize the system. To avoid electrical shock, disconnect the power cord before servicing the generator. For Model 76-98, allow the generator to cool for at least 2 hours.

The primary maintenance tasks for the Parker Balston 76-97 and 76-98 units are changing the pre-filter cartridges (P/N MK76080, annually) and for Model 76-98 only, replacing the hydrocarbon catalyst module and its filter (P/N B03-0089, 3 years). A summary of the replacement part numbers and recommended service frequency is shown at the end of this Maintenance section. See Figure 7 for the location of the pre-filters, catalyst module and filter. Additional coalescing pre-filter cartridges and particulate filter cartridges may be ordered through your local representative.

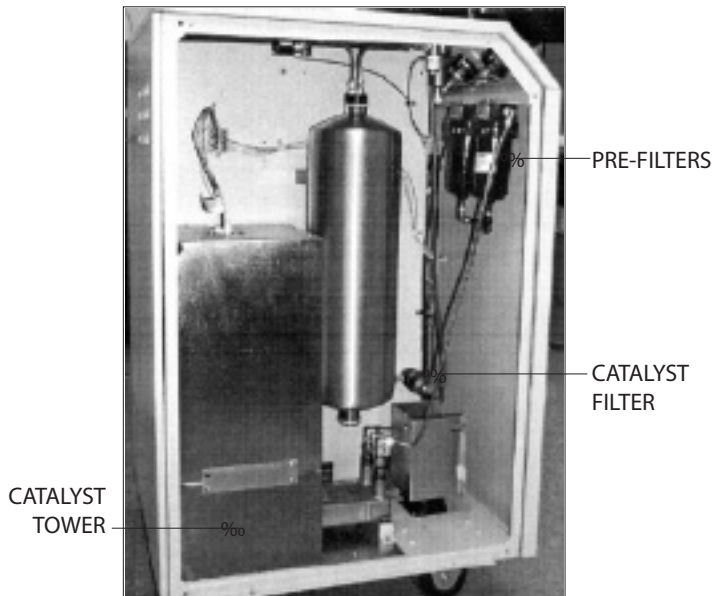


Figure 7 - Location of maintenance items: pre-filters, catalyst tower (76-98 only) and final filter (76-98 only)

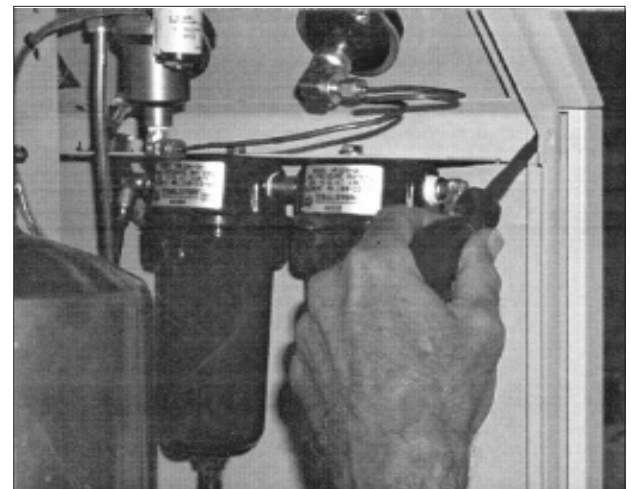


Figure 8 - Remove the two screws holding the front panel located inside the unit and on either side of the top of the panel



If necessary, the generator may be wiped clean with a dry cloth on an as needed basis. Do not use water, aerosols, or other cleaning agents to clean the generator as this could present an electrical hazard.

Depressurizing Unit

Close the customer installed inlet air supply valve, and depressurize the filters by allowing the generator to cycle until the inlet pressure gauge reads zero. Unplug the generator. (Note: If the hydrocarbon catalyst module is not being replaced or the generator is Model 76-97, there is no need to allow the generator to cool for 2 hours.)

Pre-Filter Cartridge Replacement

Remove the Phillips head screws at the top corners of both the left and right side panels; remove the panels. Remove the screws in the upper right and left corners inside the frame to release the front panel (see Figure 8). To remove the filter cartridge in the pre-filter assembly, loosen the collar (see Figure 9), lower the bowl away from the filter head, and unscrew the filter retaining nut from the base of the cartridge (see Figure 10). Insert the new filter cartridge (P/N 100-12-DX or 100-12-BX depending on the filter being changed) and reassemble the housing in the reverse order.



Figure 9 - Loosen and remove the pre-filter collar using your hand. Pull down on the bowl to remove it

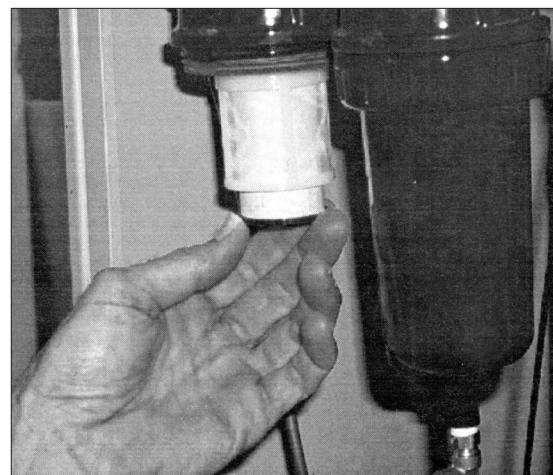


Figure 10 - Using your hand remove the blue retaining nut from the cartridge

Catalyst Module & Filter Replacement (Model 76-98 only)

The hydrocarbon catalyst module should be changed approximately every 3 years or when the yellow "Service System" light stays on for more than 30 minutes. Contact the local representative for ordering information and pricing for a replacement catalyst module.

Tools required to change the catalyst module and filter are: a Phillips-head screwdriver, an 1/8" flat head screwdriver, and two 9/16" wrenches (or adjustable wrenches). Follow the procedure below to replace the catalyst module, using the figures as guides to the various locations.



- 1 Close the customer installed inlet air supply valve between the compressor and the generator (see Figure 2). Depressurize the unit by allowing the generator to cycle until the inlet pressure gauge reads zero.
- 2 To prevent electrical shock and burns, unplug the generator from the wall receptacle. Allow the catalyst module to cool for at least 2 hours.
- 3 Remove the Phillips head screws at the top corners of both the left and the right side panels; remove the panels.
- 4 Remove the screws located inside the upper right and left corners of the rear panel; remove the panel.
- 5 To change the cartridge in the filter for the catalyst module (see Figures 7 and 11), unscrew the filter bowl from the filter head, remove the bowl and then the old cartridge, replace the cartridge with the new one, and screw the bowl back onto the filter head.
- 6 Locate the 4 wires that exit the catalyst module and are attached to a Wago connector. Remove each wire from the Wago connector using an 1/8" flat head screwdriver. Push the screwdriver into the slot next to the wire while pulling the wire out of the connector (see Figure 12).
- 7 Disconnect the two tubing connections on the catalyst heat exchanger (see Figure 13) with the 9/16" (or adjustable) wrenches.
- 8 Remove the 3 Phillips head screws that fasten the catalyst module to the frame (see Figures 14 & 15).
- 9 Lift the catalyst module assembly up to remove it from the frame. Replace it with the new module assembly.
- 10 Fasten the new module to the frame using the 3 Phillips head screws and reconnect the tubing connections (see Figures 13-15).
- 11 Place the wires from the catalyst module into the Wago connector in this order, starting from the bottom and going up: one of the heater wires, next heater wire, red thermocouple wire, and then the yellow thermocouple wire (see Figure 12).
- 12 Dispose of the spent catalyst module according to local regulations.
- 13 Open the inlet compressed air supply valve and check for leaks at the tubing connections using a

bubble type leak detection solution. Tighten tubing connections if leaking.

- 14 Replace the rear, left and right side panels.
- 15 Plug the generator back into the wall receptacle.
- 16 Begin operation of the unit as described in the Operation/Start-up section of this manual.

Occasionally, the fuse in the generator may burn out. In case of a blown fuse, only a qualified electrician is permitted to change the fuse. Please call Parker Hannifin Corporation for instructions.

Fuse Replacement



Maintenance Items

Description	P/N	Replacement Frequency
Prefilter Maintenance Kit	MK76080	Annual
Catalyst Module (76-98 Final Filter Cartridge models only)	B03-0089 (120 VAC) B03-0168 (220 VAC)	3 years

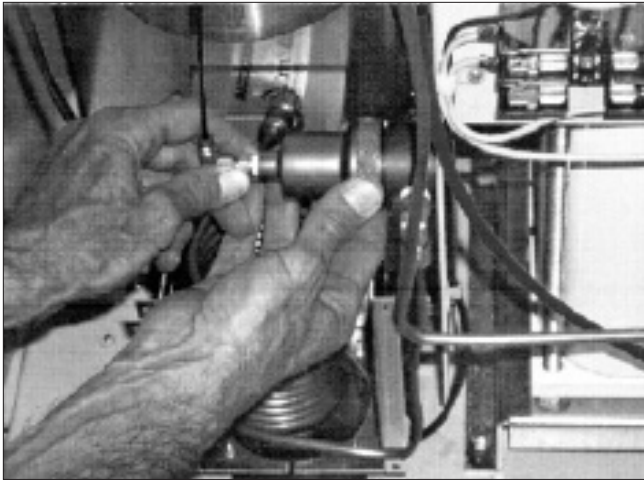


Figure 11 - Hold the bottom fitting with left hand while turning the collar on the filter with your right hand to remove the filter body

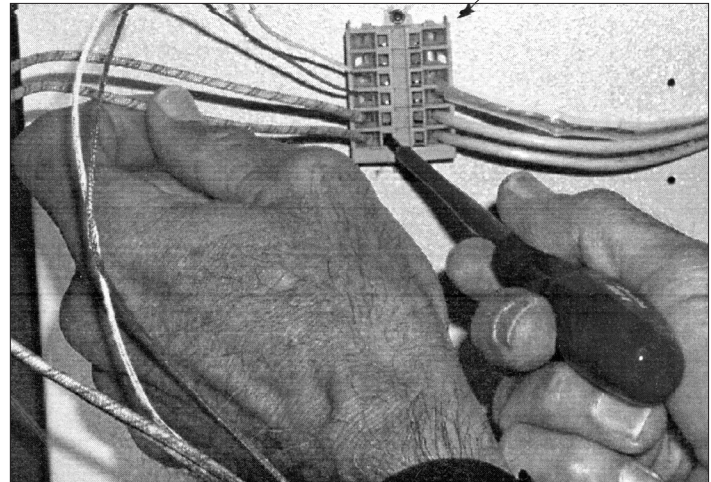


Figure 12 - Use an 1/8" flat head screwdriver to remove the heater wires from the Wago Connector

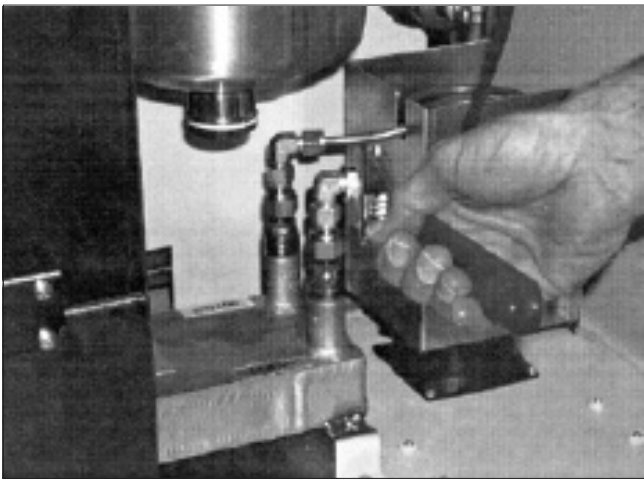


Figure 13 - Remove the two fittings on the heat exchanger

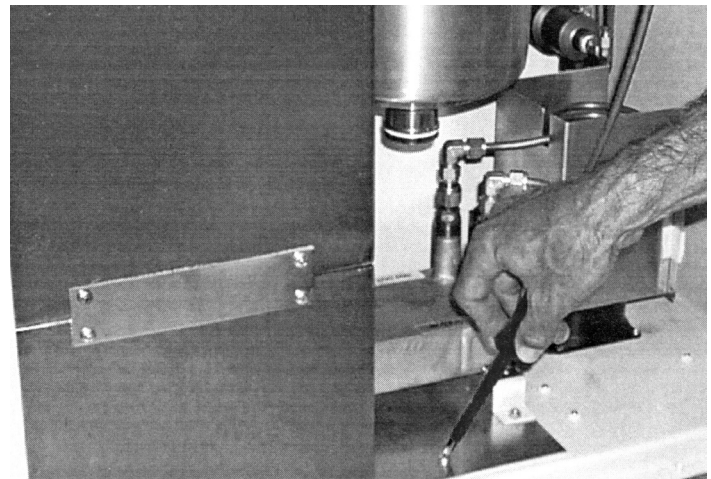


Figure 14 - Catalyst panel screw located on the left side of the unit, in front of the catalyst tower

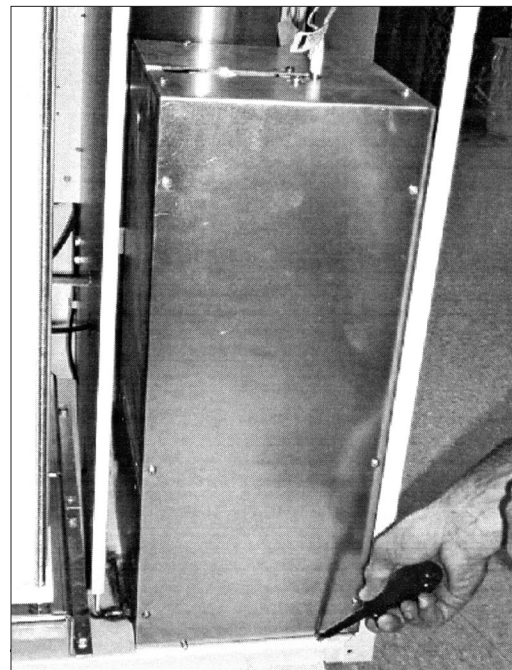


Figure 15 - Remove the two screws located at the rear and the base of the catalyst tower

Ordering Information

Model Number	Description	Voltage	Frequency	Current
76-97	NitroPack™	120 VAC	60 Hz	0.1 A
76-97JA-100	NitroPack™	100 VAC	60 Hz	0.1 A
76-97-220	NitroPack™	220 VAC	50 Hz	0.05 A
76-98	NitroPack™	120 VAC	60 Hz	8 A
76-98JA-100	NitroPack™	100 VAC	60 Hz	8 A
76-98-220	NitroPack™	220 VAC	50 Hz	2.5 A

System Specifications

Model	76-97	76-98		
CE Mark	220 VAC Models only			
IEC 1010.1	Installation Category II, Pollution Degree 2			
CSA Safety Standard	CAN/CSA 22.2 No. 1010.1-92+A1			
IEC Safety Standard	IEC 1010-1:1990+A1; 1992+A2; 1995 / En61010-1: 1995			
Safety Compliance	Directive Low Voltage 73/23/EEC			
UL Safety Standard	UL 3101-1, First Edition			
EMC Compliance	Directive 89/336/EEC			
Nitrogen Purity (1)	99.9999% in reference to oxygen			
Outlet Hydrocarbon Concentration	No hydrocarbon removal	<0.1 ppm		
Outlet CO ₂ Concentration	< 1 ppm when oxygen < 1 ppm			
Outlet H ₂ O Concentration	1 ppm when oxygen < 1 ppm			
Argon Concentration	0.9%			
Inlet Port / Outlet Valve	1/4" Female NPT/ 1/8" Female NPT			
Drain	1/4" Nylon Tube			
Compressed Air Consumption	Average of 3 SCFM			
Min/Max Inlet Pressure	60 psig/120 psig (4.1 Barg/8.3 Barg)			
Maximum Flow Continuous	Refer to performance specifications			
Min/Max Ambient Temperature	60°F/90°F (16°C/32°C)			
Max. Relative Humidity	80% at 70°F			
Product Start-up Time	5 hours			
Power consumption	10 Watts		1 KW	
Electrical Requirements	120 VAC, 100 VAC	230 VAC	120 VAC, 100 VAC	230 VAC
Fuses: F2, F3 installed on electrical panel	250 V T.125A 5 x 20 mm P/N A03-0087	250 V T.063A 5 x 20 mm P/N A03-0026	250 V 20 A Slo Blow P/N A03-0024	250 V 12A Slo Blow P/N A03-0034
Dimensions	25"w x 25"d x 41"h (64cm x 64cm x 104cm)			
Shipping Weight	500 lbs. (227 kg)			
Altitude	2000m			

Optional Accessories

Description	P/N
Pressure Regulator	72-130-V883
Flow Meter	W-FM7698

Notes

- 1 Refer to performance specifications for conditions

Troubleshooting

Symptom	Course of Action
No outlet flow/pressure	Check if unit is plugged in. Check if PSA tower 2-way valves are open (see Figure 5). Close the generator's outlet 2-way valve to see if receiver pressure increases. If pressure increases, check the outlet flow rate. Consult factory if pressure does not increase.
No outlet flow/pressure and System check light and alarm on	Check inlet pressure ≥ 60 psig. Check catalyst module filter; if corroded, consult factory.
High oxygen content in nitrogen	Check operating conditions: inlet pressure and outlet flow. Check for leaks in downstream plumbing.
Low outlet pressure flow.	Check operating conditions: inlet pressure and outlet flow. Check for leaks in downstream plumbing. Check final filter; to do this, consult factory.
Service System light off (Model 76-98); High hydrocarbon content in nitrogen	Catalyst module may need to be replaced.
Service system light on (Model 76-98); High hydrocarbon concentration	Replace catalyst module.

Don't Forget To:

- 1 Complete and mail your registration card.
- 2 Keep your product certification in a safe place.
- 3 Call the Technical Services Department at 800-343-4048, 8 AM to 5 PM Eastern Time or email at balstontechsupprt@parker.com with any questions. For other locations, please contact your local representative.

Serial Numbers

The serial number for the unit is located at the bottom of the right side panel.
For your own records, and in case service is required, please record the following:

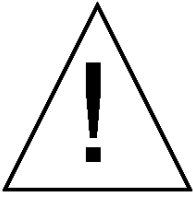
DATE IN SERVICE _____ SERIAL NO. _____



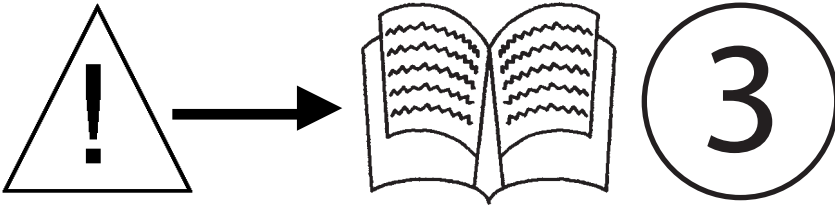
Explanation of Warning Symbols

Symbol

Description



Caution, refer to accompanying documents for explanation.



Refer to Installation and Operation Manual, warning note #3 for explanation.



Caution, risk of electric shock.



Surface may be hot and could cause burns to the skin (found on inside of some units).



Caution, Hot Surface.



Ground

