Zero Air Generator

UHP-10ZA-S - UHP-300ZA-S

User Guide

EN Original Language

aerospace
climate control
electromechanical
filtration
fluid & gas handling
hydraulics
pneumatics
process control
sealing & shielding

Parker domnick hunter

ENGINEERING YOUR SUCCESS.

Warranty

This warranty applies to the generator and associated parts (the equipment) manufactured and supplied by Parker Hannifin Manufacturing Limited., domnick hunter Filtration and Separation (the company).

Use of the generator without the recommended inlet air quality or genuine parts will expressly invalidate the warranty.

Should the equipment be defective as to materials or workmanship, the company warrants that it will remedy such defect. Where the equipment is the generator, the warranty period will be 12 months from date of commissioning or 18 months from date of manufacture, whichever comes first. In the case of equipment other than the generator, the warranty period shall commence from the date of dispatch.

Should any defect occur during the warranty period and be notified in writing to the company or its authorised distributor within the said period, the company will, as its sole option, remedy such defect by repair or provision of a replacement part, provided that the equipment has been used strictly in accordance with the instructions provided with each item of equipment and has been stored, installed, commissioned, operated and maintained in accordance with such instruction and with good practice. The company shall not be under any liability whatsoever under the warranty, if, before giving notification in writing to the company as aforesaid, the Customer or any third party meddles, interferes, tampers with or carries out work whatsoever (apart from normal maintenance as specified in the said instructions) in relation to the equipment or any part thereof.

Any accessories, parts and equipment supplied by the company but not manufactured by the company shall carry whatever warranty the manufacturer has given the company providing it is possible for the company to pass on such warranty to the customer.

To claim under the warranty, the goods must have been installed and continually maintained in the manner specified in the User Guide. Our product support engineers are qualified and equipped to assist you in this respect. They are also available to make repairs that may become necessary in which event they will require an official order before carrying out the work. If such work is to be the subject of a warranty claim, the order should be endorsed for consideration under warranty.

Where equipment is sold outside the UK mainland direct to the end user the warranty will cover parts only. Any substitution of parts not manufactured or approved by the company will expressly invalidate the warranty.

CONTENTS

1 Safety Information

Do not operate this equipment until the safety information and instructions in this user guide have been read and understood by all personnel concerned.

USER RESPONSIBILITY

FAILURE OR IMPROPER SELECTION OR IMPROPER USE OF THE PRODUCTS DESCRIBED HEREIN OR RELATED ITEMS CAN CAUSE DEATH, PERSONAL INJURY AND PROPERTY DAMAGE.

This document and other information from Parker Hannifin Corporation, its subsidiaries and authorised distributors provide product or system options for further investigation by users having technical expertise.

The user, through its own analysis and testing, is solely responsible for making the final selection of the system and components and assuring that all performance, endurance, maintenance, safety and warning requirements of the application are met. The user must analyse all aspects of the application, follow applicable industry standards, and follow the information concerning the product in the current product catalogue and in any other materials provided from Parker or its subsidiaries or authorised distributors.

To the extent that Parker or its subsidiaries or authorised distributors provide component or system options based upon data or specifications provided by the user, the user is responsible for determining that such data and specifications are suitable and sufficient for all applications and reasonably foreseeable uses of the components or systems.

Only competent personnel trained, qualified, and approved by Parker Hannifin should perform installation, commissioning, service and repair procedures.

This equipment is for indoor use only. Do not operate outdoors.

With the exception of oxygen, any gas can cause asphyxiation in high enough concentrations. Always ensure that the generator is operated in a well ventilated area and all of the vent ports on the rear of the generator are kept clear and free from blockages.

Use of the equipment in a manner not specified within this user guide may result in an unplanned release of pressure, which may cause serious personal injury or damage.

When handling, installing or operating this equipment, personnel must employ safe engineering practices and observe all related regulations, health & safety procedures, and legal requirements for safety.

The components within the generator may contain high pressure. These should not be modified or tampered with in any way as serious injury could occur.

Ensure that the equipment is depressurised and electrically isolated, prior to carrying out any of the scheduled maintenance instructions specified within this user guide.

Parker Hannifin can not anticipate every possible circumstance which may represent a potential hazard. The warnings in this manual cover the most known potential hazards, but by definition can not be all-inclusive. If the user employs an operating procedure, item of equipment or a method of working which is not specifically recommended by Parker Hannifin the user must ensure that the equipment will not be damaged or become hazardous to persons or property.

Most accidents that occur during the operation and maintenance of machinery are the result of failure to observe basic safety rules and procedures. Accidents can be avoided by recognising that any machinery is potentially hazardous.

Note: Any interference with the calibration warning labels will invalidate the gas generator's warranty and may incur costs for the recalibration of the gas generator.

Should you require an extended warranty, tailored service contracts or training on this equipment, or any other equipment within the Parker Hannifin range, please contact your local Parker Hannifin office.

Details of your nearest Parker Hannifin sales office can be found at www.parker.com/dhfns

Retain this user guide for future reference.

1.1 Markings and Symbols

The following markings and international symbols are used on the equipment or within this manual:

	Caution, Read the User manual.		Highlights actions or procedures which, if not performed correctly, could lead to electric shock.
	Risk of electric shock.		When disposing of old parts always follow local waste disposal regulations.
	Highlights actions or procedures which, if not performed correctly, may lead to personal injury or death.		Conformité Européenne
	Highlights actions or procedures which, if not performed correctly, may lead to damage to this product.		Waste electrical and electronic equipment should not be disposed of with municipal waste.
	Face mask must be worn.		Eye protection must be worn.
	Gloves must be worn		Warning Generator must be shut down and depressurised before performing any maintenance (Refer to manual)
	Caution Hot components enclosed Do not remove the cover until the unit has been allowed to cool.		Danger Disconnect the mains supply before removing this cover.
	Caution Hot Surface		Caution Do not place loads on this surface Replace the covers unless the Parker dh hydrogen generator is mounted. Maximum Load - 30kg (66lbs)
	This product has been certified by Underwriters Laboratories®.		

2 Description

Parker Hannifin zero air generators are designed to produce a supply of hydrocarbon free air from a clean, dry (IS0 8573-1:2010 class 2.2.1) compressed air source so eliminating the need for high pressure gas storage and disruption due to bottle changes and subsequent re-calibrations.

The inlet compressed air passes through a 1.0 micron filter to remove any particulate and then over a heated platinum catalsyst. This catalytic action produces an ultra pure air stream with a residual hydrocarbon concentration (as methane) of less than 0.1 ppm. The gas exits the catalyst unit, and is then cooled, via a cooling coil. Finally, the air passes through a 0.01 micron filter to remove any particulate and water, which may be generated during the hydrocarbon removal phase.

2.1 Technical Specification

This specification is valid when the equipment is located, installed, operated, and maintained as specified within this user guide.

Parameter	Units	UHP						
		10ZA-S	35ZA-S	50ZA-S	75ZA-S	150ZA-S	200ZA-S	300ZA-S
General								
Inlet Air Quality	ISO 8573-1: 2010	Class 2.2.1						
Inlet Pressure	bar g (psi g)	4 - 10 (58 - 145)						
Inlet Temperature	^{o}C (^{o}F)	5 - 40 (41 - 104)						
Flow Rate	L/min	1	3.5	5.0	7.5	15	20	30
Purity	ppm	< 0.1 (methane - with 100 ppm challenge)						
Mechanical Connections (Compression fittings)								
Compressed Air Inlet		1/8”		1/4”				
Zero Air Outlet		1/8”		1/4”				
Electrical Data								
Connection Type		IEC 320						
Input Voltage	Vac	104 - 127 60Hz						
Power	W	55	160			575		
Fuse[1]	A	1	2			6.3		
Input Voltage	Vac	207 - 253 50/60Hz						
Power	W	55	230			575		
Fuse[1]	A	1	2			3		
Environmental Data								
Ambient Temperature	^{o}C (^{o}F)	5–40 (41–104)						
Relative Humidity		50% @ 40^{o}C (104^{o}F) (80% MAX $\leq$ 31^{o}C (87.8^{o}F))						
IP Rating		IP20, NEMA 1, indoor use only						
Pollution Degree		2						
Installation Over voltage Category		II						
Maximum Altitude	m (ft.)	2000 (6562)						
Noise	dB(A)	<50						

1. Anti surge (T), 250V, 5 x 20mm HBC, Breaking Capacity 1500A @250V, IEC 60127, UL R/C

2.2 Approvals

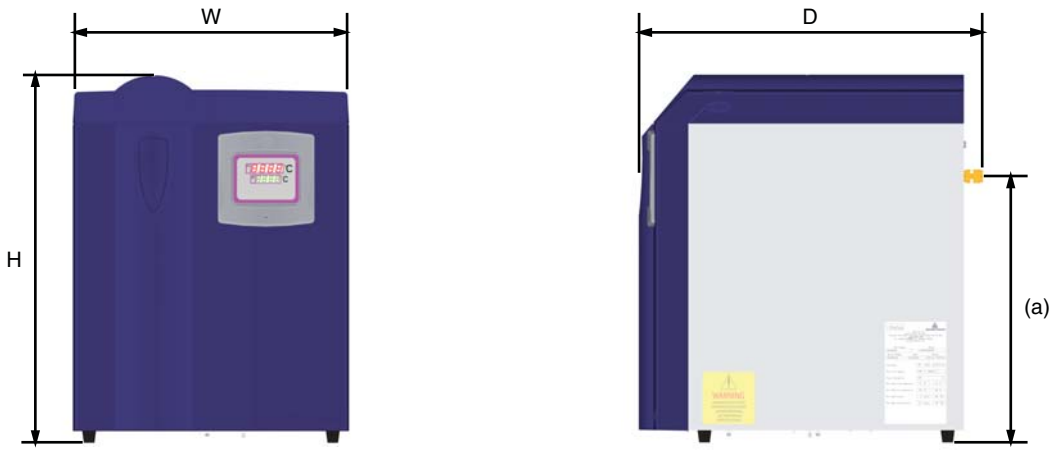
Safety and Electromagnetic Compatibility (EMC)	
CE	This equipment has been tested and complies with the following European Standards: EN61010-1: 2001 — Safety Requirements for Electrical Equipment for Measurement, Control, and Laboratory use - Part 1: General Requirements. EN61326: 2006 — Electrical Equipment for Measurement, Control, and Laboratory use, EMC Requirements. EN61000-3-2: 2006 — Electromagnetic compatibility (EMC) Limits. Limits for harmonic current emissions (equipment input current = 16 A per phase). EN61000-3-3: 1995 (+A1: 2001 + A2: 2006) — BS EN 61000-3-3:2008 Electromagnetic compatibility (EMC). Limits. Limitation of voltage changes, voltage fluctuations and flicker in public low-voltage supply systems, for equipment with rated current = 16 A per phase and not subject to conditional connection.
c UL us LISTED LABORATORY EQUIPMENT 84NA	This equipment has been tested to and complies with the following standard: UL 61010-1 2nd Edition, “Electrical Equipment for Laboratory Use; Part 1: General Requirements. CAN/CSA C22.2 No.61010-1 2nd Edition, “Electrical Equipment for Laboratory Use; Part 1: General Requirements.

2.3 Materials of Construction

Facia and Covers	Noryl FN150 (R4G334/ AE251/1 Trimite coated)
Chassis	Mild Steel (Epoxy Powder Coated)
Seal Materials	PTFE (tape)
Display Bezel	PA-765 ABS
Display Facia	Polyester film (Lumirror S10)
Compression fittings	Brass
Coalescing Filter	Aluminium Housing
Paint	All external surface epoxy powder coated
Catalyst[3]	Platinum
Fittings	Nickel plated brass
Internal Pipework	Stainless steel
Mounting Feet	Polyamide reinforced nylon and plated mild steel

2.4 Weight and Dimensions

The dimensions and weight of the equipment are specified below.



Model	H mm (in)	W mm (in)	D mm (in)	a mm (in)	Weight Kg (lb)
10ZA-S	325 (12.8)	340 (13.4)	425 (16.7)	219 (8.6)	10.2 (22.5)
35ZA-S	455 (17.9)	340 (13.4)	425 (16.7)	330 (13.0)	14.2 (31.3)
50ZA-S	455 (17.9)	340 (13.4)	425 (16.7)	330 (13.0)	14.2 (31.3)
75ZA-S	455 (17.9)	340 (13.4)	425 (16.7)	330 (13.0)	14.2 (31.3)
150ZA-S	455 (17.9)	340 (13.4)	425 (16.7)	330 (13.0)	15.2 (33.5)
200ZA-S	455 (17.9)	340 (13.4)	425 (16.7)	330 (13.0)	15.2 (33.5)
300ZA-S	455 (17.9)	340 (13.4)	425 (16.7)	330 (13.0)	15.2 (33.5)

Table 2.2 Weight and Dimensions

2.5 Receiving and Inspecting the Equipment

On receipt of the equipment carefully inspect the packaging for damage. If the packaging is damaged inform the delivery company immediately and contact your local Parker Hannifin office.

2.5.1 Storage

If the equipment is to be stored prior to installation, do not remove it from the packaging. Ensure that it is stored in an upright position as indicated by the arrows on the packaging.

Warning

Do not attempt to lift the generator by yourself. It is recommended that the generator be carried by a minimum of two persons or transported on a pallet truck.

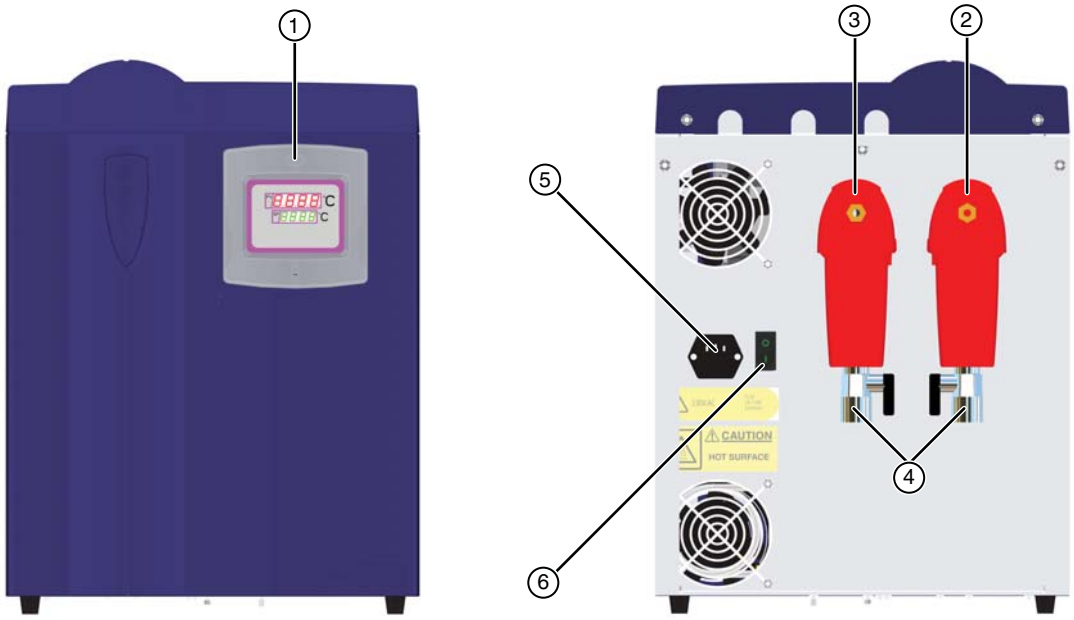
Note. The storage area should be secure and the environmental conditions should fall within those specified in the technical specification.If the generator is stored in an area where the environmental conditions fall outside of those specified, it is essential that it be moved to its final location (installation site) and left to stabilise prior to unpacking. Failure to do this could cause condensing humidity and potential failure of the generator.

2.5.2 Unpacking

Once ready to install, remove the equipment from the packaging and check for signs of damage.Verify that two compression fittings and two electrical supply cables have been included with the shipment. **Note.** Only one supply cable is supplied with 120 V generators.

If any items are missing or damaged please contact your local Parker Hannifin office. Do not attempt to power up the generator.

2.5.3 Overview of the equipment



Key:

REF	DESCRIPTION
1	Controller
2	Inlet filter (AO)
3	Outlet filter (AA)
4	Filter drain valves
5	Electrical supply inlet socket.
6	On / Off switch

2.6 Locating the Equipment

2.6.1 Environment

The equipment should be located indoors in an environment that protects it from direct sunlight, moisture, and dust. Changes in temperature, humidity, and airborne pollution will affect the environment in which the equipment is operating and consequently may impair the safety and operation.

It is the customers' responsibility to ensure that the environmental conditions specified in table 2.1 are maintained.

2.6.2 Space Requirements

The equipment should be mounted on a flat surface, capable of withstanding the weight of the equipment and all ancillary parts. A minimum clearance of 150mm (5.9in) should be provided on all sides of the generator for air flow. Additional space should be provided so that the generator can be moved to allow unrestricted access to the generator during servicing and maintenance.

Do Not block the side vents or the fans located on the rear panel of the generator.

Do Not position the equipment so that it is difficult to operate or disconnect from the electrical supply.

2.6.3 Ventilation Requirements

Other than providing adequate space for airflow, there are no specific ventilation requirements for this generator.

2.6.4 Air Inlet Quality

The air inlet quality specified for this generator is ISO 8573-1:2010 class 2.2.1.

ISO 8573-1:2010 is an international standard that specifies the purity classes of compressed air with respect to solid particulates, water and oil.

ISO 8573-1:2010 class 2.2.1 equates to the following:

Class 2 (Solid Particulate)
In each cubic metre of compressed air, not more than 400,000 particles in the 0.1–0.5 micron size range are allowed.In each cubic metre of compressed air, not more than 6,000 particles in the 0.5–1 micron size range are allowed.
In each cubic metre of compressed air, not more than 100 particles in the 1–5 micron size range are allowed.

Class 2 (Water)
A pressure dewpoint of -40^{o}C or better is required.
No liquid is allowed.

Class 1 (Oil)
In each cubic metre of compressed air, not more than 0.01 mg of oil is allowed.
Note. This is the combined level for aerosol, liquid and vapour.

ISO 8573-1:2010 Class 2.2.1 can be achieved with the following combination of Parker Hannifin purification products:

1 General Purpose filter Grade AO

2 High efficiency filter grade AA

3 PNEUDRI Adsorption Dryer (-40^{o}C Pressure Dewpoint)

4 ACS / OVR Adsorption Filter

5 General Purpose Dust removal Filter Grade AR

Chlorinated hydrocarbon compounds and chlorofluorocarbons (or freons) will permanently contaminate the hydrocarbon catalyst module in the Zero Air Generator. Extreme care should be taken when specifying an air supply for the generator to ensure that these compounds are not present in the air supply nor likely to get into the compressor providing air to the generator.
The hydrocarbon catalyst module can also be contaminated by high concentrations of lead, sulphur, or phosphorus compounds, heavy metals, and long chain polymers. Care should be taken to avoid introducing these compounds into the Zero Air Generator. Specifically, assure that none of these compounds are stored near the inlet to the compressor supplying the system with compressed air. The intake for the compressor should be vented to the outdoors.

2.6.5 Electrical Supply Requirements

The equipment should be connected directly from the fused IEC 320 inlet socket to the electrical supply using the power cord supplied. The equipment should be positioned so that it can be connected to the electrical supply without the use of an extension cord.

It is the customers responsibility to provide a fused electrical supply to the equipment (Refer to table 2.1 for the electrical specification). It is recommended that this supply have surge protection.

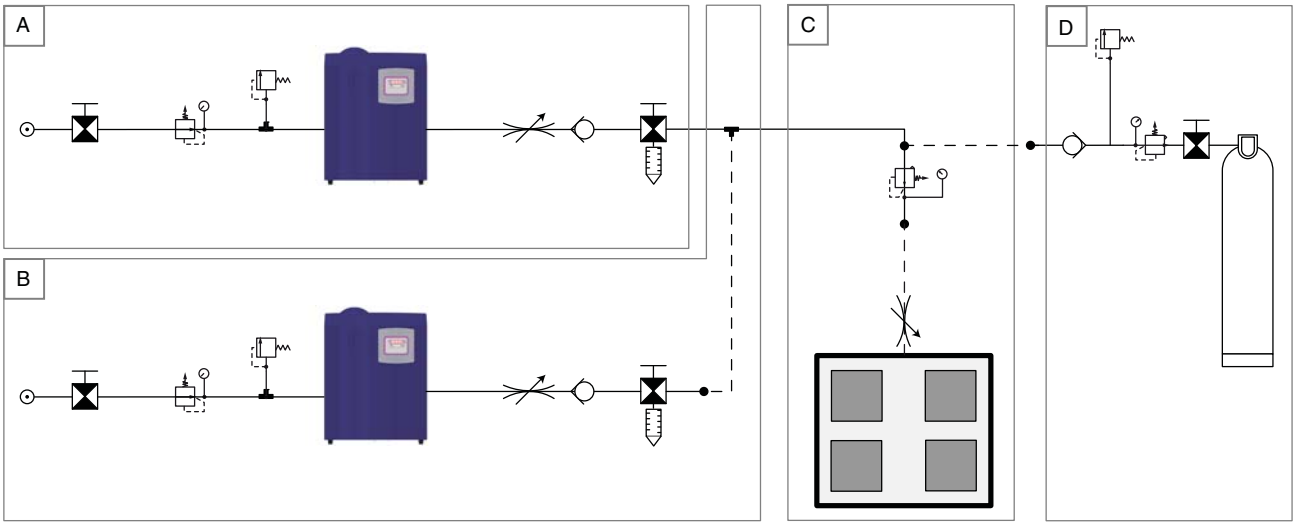
The equipment is connected to protective earth (ground) through the power cord. It is essential that electrical supply is equipped with a protective earth (ground) terminal. If an alternative power cord is used to connect the equipment to the electrical supply, ensure that it is suitably rated for the application and contains a protective earth (Ground) conductor.

3 Installation & Commissioning

Warning

Only competent personnel trained, qualified, and approved by Parker Hannifin should perform commissioning and service procedures.

3.1 Recommended system layout



A	Single generator	C	Application Instrument		Non return valve
B	Multiple generators	D	Back up supply		Flow Controller
	Isolation Valve		Pressure regulator		Pressure relief valve
	3-way ball valve with silencer.				

3.1.1 Installation Parts.

Description	Part Number		
	Stainless Steel	Brass	Copper
1/8" OD Tube Ball Valve	--	2A-MB2LPFA-BP	--
1/4" OD Tube Ball Valve	--	4A-MB4LPFA-BP	--
1/8" OD Tube 3 Way Ball Valve	--	2A-MB2XPFA-BP	--
1/4" OD Tube 3 Way Ball Valve	--	4A-MB4XPFA-BP	--
1/8" OD Tube Non Return Valve	--	2A-C2L-1-BN-BP	--
1/4" OD Tube Non Return Valve	--	4A-C4L-1-BN-B	--
1/8" OD Tube Equal Tee	--	2ET2-B	--
1/4" OD Tube Equal Tee	--	4ET4-B	--
1/8" OD Tube Pressure Relief Valve	This relief valve should be sized by the installer to suit the installation		
1/4" OD Tube Pressure Relief Valve	This relief valve should be sized by the installer to suit the installation		
1/8" BSPP (G1/8) Pressure Regulator (0 - 125 psig)	14R013F1		
1/4" BSPP (G1/4) Pressure Regulator (0 - 125 psig)	14R113F1		
1/8" BSPT (R1/8") to 1/8" OD Tube Connector	--	2MSC2K-B	--
1/8" OD Copper Tube (Grade B-280) (50 FT)	--	--	X50CT-2-30
1/4" OD Copper Tube (Grade B-280) (50 FT)	--	--	X50CT-4-30

Installation Parts display Parker Master Catalogue part number and may ordered through your local authorised Parker Sales Company. Please note gas bottle and/or gas bottle regulator are not supplied by Parker Hannifin.

3.2 Connecting the generator

Refer to “Recommended system layout” on page 8 for the desired system configuration.

Warning

Ensure that the air supply and application piping are connected to the correct ports on the rear of the generator. Failure to observe the correct orientation could lead to excessive temperatures, burns, or fire.

Apply eight turns of PTFE tape to the threads of the compression fittings supplied. Remove the labels covering the ports of the filters and insert the fittings.

1 Connect the generator to the air supply through a pressure relief valve, pressure regulator and an isolation valve. Leave the valve in the closed position at this time. The pressure relief valve should be set at 11 bar g.

2 Fit a flow control valve, non-return valve and 3 way ball valve with silencer to the outlet filter of the generator.

Connect the ball valve to the application using clean stainless steel or pre-cleaned refrigeration grade copper tubing and fittings.
The tubing and fittings should be suitable for the application and rated to at least the maximum operating pressure of the generator.

Caution

Do not use plastic tubing to connect the generator to the application as this could cause contamination of the zero air.

Caution

Use PTFE on the BSPT fittings. Do not use sealing compounds as they could cause contamination of the zero air.

3.2.1 Electrical supply

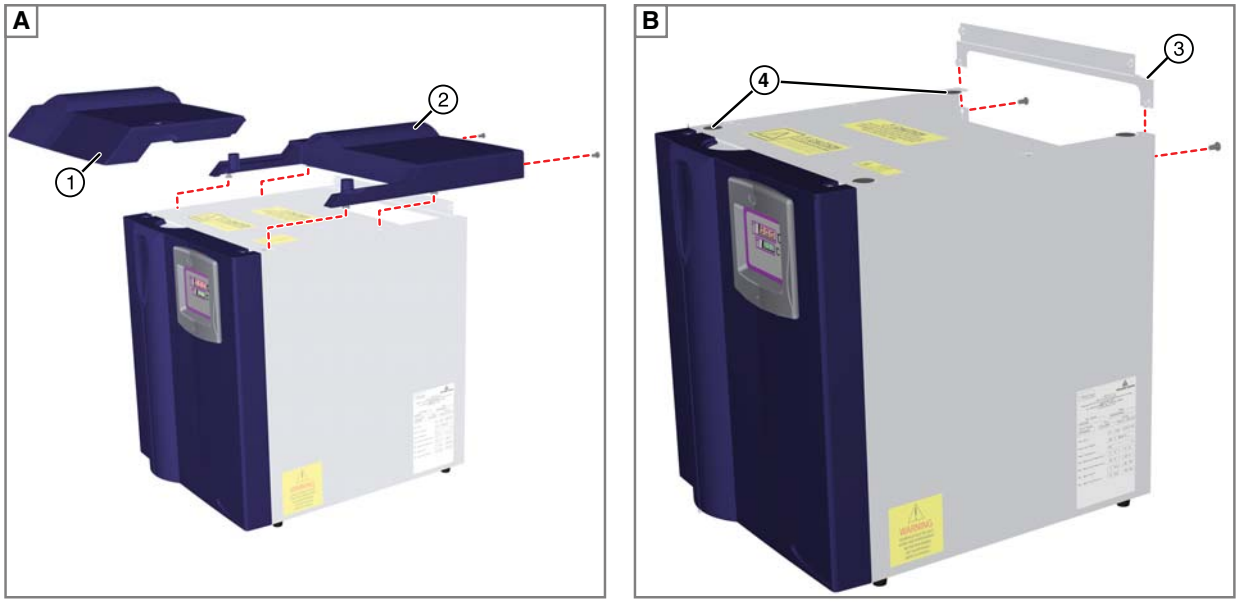
Check the rating plate for the correct supply voltage and frequency. Select the required power cord and connect it to the switched IEC 320 socket on the generator. Connect the plug directly to the electrical supply. Do not use an extension cord.

3.2.2 Stacking the Generator

The generator may be re-configured so that the Parker Hannifin H and HMD range of hydrogen generators may be stacked safely on top of it. To re-configure the generator, unlock the two retaining screws and remove the top service lid panel (1). Remove the two retaining screws on the rear of the top lid panel (2). Slide the panel backwards until the nylon locating screws are free from their retaining slots and remove the panel.

Remove the two screws holding the rear bracket in place. Lift the bracket away from the assembly and store it safely along with the top cover. Position the hydrogen generator on to the zero air generator.

Note. The rubber feet on the hydrogen generator must be positioned in the locating holes (4) on the zero air generator chassis.

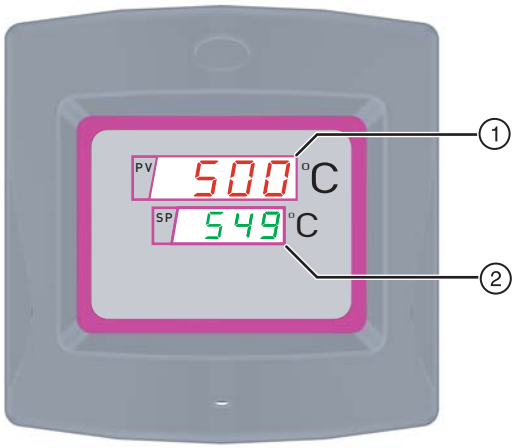


Warning

The upper plate is designed to withstand a maximum load of 30 kg (66lb). Do not place any objects other than the Parker Hannifin hydrogen generator on this plate.

4 Operating the equipment

4.1 Overview of the generator



Key:

1	Actual Temperature	
2	Set Temperature:	
	10ZA-S	571°C
	35ZA-S — 75ZA-S	652°C
	150ZA-S — 300ZA-S	549°C

4.2 Starting the generator

Caution

The generator should only be operated when the inlet isolation valve is open and air is flowing at the pressure and flow rate specified in section 2.1 of this guide. If the air flow is lost during operation, or falls below the specified requirements, switch the generator off via the mains "ON/OFF" switch. Failure to do so could damage the internal heater.

1 Open the isolation valve at the generator inlet and adjust the pressure as required. Set the pressure relief valve to 11 bar g (159.5 psi g).

2 Referring to the recommended set up in section 3.1, connect a suitably rated flow meter in place of the silencer on the 3-way ball valve at the outlet of the generator. Verify that the gas flow rate matches the flow rate specified in section 2.1 and adjust accordingly.

Note. The purity of the gas delivered by the generator will be affected if the specified flow rate is exceeded. If the application instrument does not have an integral flow controller, it is recommended that a flow controller be installed downstream of the generator outlet (refer to recommended system layout).

3 Check system piping and fittings for leaks and repair as required.

4 Switch the generator on using the mains "ON/OFF" switch located on the rear of the generator. The heating process will start immediately and it should take approximately ten minutes for the catalyst to reach the set temperature.

5 Once the generator reaches the set temperature, open the isolation valve located downstream of the generator.

Note. The temperature may fluctuate up to 1% of the set temperature.

6 The application instrument is now being supplied with hydrocarbon free air.

The generator is designed to operate continually without user intervention.

4.3 Shutting down the generator

1 Referring to the recommended set up in section 3.1 of this manual, slowly close the three way isolation valve to divert the flow from the application instrument to the silencer.

2 Switch the generator off using the mains "ON/OFF" switch, located on the rear of the generator, and leave it to cool.

3 After approximately 20 minutes close the compressed air supply isolation valve and wait until the pressure gauge on the inlet of the generator reads 0 bar g.

The generator is now shut down and fully depressurised.

5 Servicing

The recommended service procedures identified below, along with all other repair and calibration work, should be undertaken by a Parker Hannifin approved engineer.

5.1 Cleaning

Clean the equipment with a damp cloth only and avoid excessive moisture around any electrical sockets. If required you may use a mild detergent, however do not use abrasives or solvents as they may damage the warning labels on the equipment.

5.1.1 Service Intervals

Component	Operation	Daily	Weekly	12Months (8000Hrs.)	24Months (16000Hrs.)	36 Months (24000Hrs.)
Generator	Check the controller display is operating	✓				
Generator	Check air flow for fan discharge at the rear of the equipment.	✓				
Generator	Open the manual drain valves on the filters to drain the condensate.		✓			
Generator	Check for leaks within the system		✓			
Generator	Check the mains supply cable for damage		✓			
Generator	Ensure there is ventilation clearance around generator		✓			
Generator	Replace the inlet and outlet filters. **Recommended Service A**			🔧		
Generator	Replace the cooling fan. **Recommended Service B**				🔧	
Generator	Replace the catalyst assembly. **Recommended Service C**					🔧

Service	12 Months (8000 Hrs.)	24 Months (16000 Hrs.)	36 Months (24000 Hrs.)	48 Months (32000 Hrs.)	60 Months (40000 Hrs.)	72 Months (48000 Hrs.)	84 Months (56000 Hrs.)	96 Months (64000 Hrs.)	108 Months (72000 Hrs.)	120 Months (80000 Hrs.)
A	🔧	🔧	🔧	🔧	🔧	🔧	🔧	🔧	🔧	🔧
B		🔧		🔧		🔧		🔧		🔧
C			🔧			🔧			🔧	

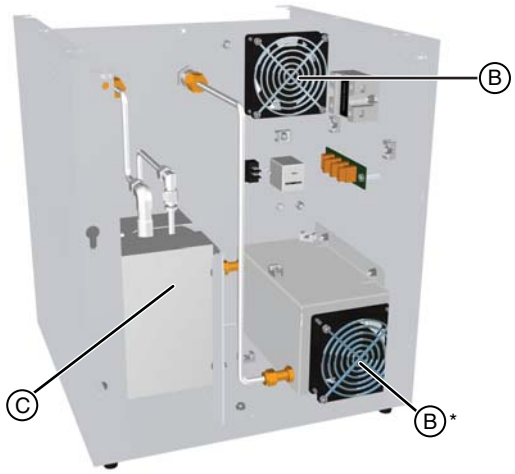
Key:

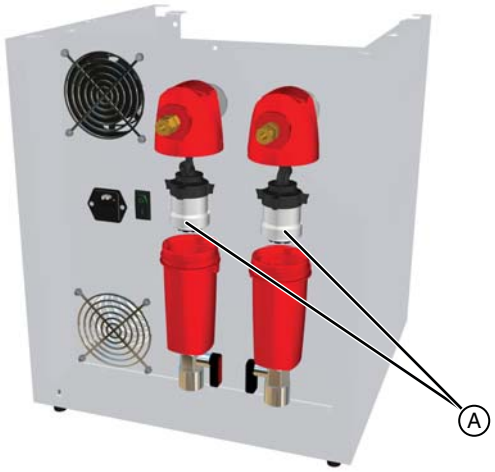
✓	Check	🔧	Essential Procedure		

serviceremainder.com

Servicereminder.com is a web based reminder service developed to track when service work is due to be carried out. This ensures that parts can be ordered in advance and that the service is carried out at the optimum time in accordance with the manufacturers recommendations. This service is free to use, simply log on to www.servicereminder.com and select New User Registration.

5.2 Service Kits





5.2.1 Recommended Service A - Required every 8000Hrs (12 months)

Description	Catalogue Number	Technical Reference	Contents
Inlet Filter Service Kit	005AO	504421055	005 AO Filter element Capillary ring
Outlet Filter Service Kit	005AO	504431055	005 AA Filter element Capillary ring

5.2.2 Recommended Service B - Required every 16000Hrs (24 months)

Description	Catalogue Number	Technical Reference	Contents
230 V Fan Service Kit	606272525	606272525	Fan Fan guard (x2) M4 x 35mm screws (x4) M4 lock nut No. 10 self tapping screw
120 V Fan Service Kit	606272526	606272526	

Note. Two kits are required for model numbers 35ZA-S to 300ZA-S

5.2.3 Recommended Service C - Required every 24000Hrs (36 months)

Description	Catalogue Number	Technical Reference	Contents
230 V Catalyst (UHP-10ZA-S)	606272511	606272511	Catalyst assembly complete with wiring and fittings.
120 V Catalyst (UHP-10ZA-S)	606272512	606272512	
230 V Catalyst (UHP-35ZA-S)	606272513	606272513	
120 V Catalyst (UHP-35ZA-S)	606272514	606272514	
230 V Catalyst (UHP-50ZA-S)	606272515	606272515	
120 V Catalyst (UHP-50ZA-S)	606272516	606272516	
230 V Catalyst (UHP-75ZA-S)	606272517	606272517	
120 V Catalyst (UHP-75ZA-S)	606272518	606272518	
230 V Catalyst (UHP-150ZA-S)	606272519	606272519	
120 V Catalyst (UHP-150ZA-S)	606272520	606272520	
230 V Catalyst (UHP-200ZA-S)	606272521	606272521	
120 V Catalyst (UHP-200ZA-S)	606272522	606272522	
230 V Catalyst (UHP-300ZA-S)	606272523	606272523	
120 V Catalyst (UHP-300ZA-S)	606272524	606272524	

5.3 Service Record

Generator Details	
Model Number:	
Serial Number	
Supply Voltage	

Commissioned By:	
Company Name	
Address:	
Telephone:	
Fax:	
Contact Name:	
Date of Commission:	

Service Interval Months (Hours)	Date	Serviced By		Comments
		Print	Sign	
6 (4,000)				
12 (8,000)				
18 (12,000)				
24 (16,000)				
30 (20,000)				
36 (24,000)				
42 (28,000)				
48 (32,000)				
54 (36,000)				
60 (40,000)				
66 (44,000)				
72 (48,000)				
78 (52,000)				
84 (56,000)				
90 (60,000)				
96 (64,000)				
102 (68,000)				
108 (72,000)				

6 Troubleshooting

In the unlikely event that a problem occurs on the equipment, this troubleshooting guide can be used to identify the probable cause and remedy.

Warning

Troubleshooting should only be attempted by competent personnel. All major repair, and calibration work should be undertaken by a Parker Hannifin trained, qualified and approved engineer.

6.1 Fault Indicators

Under certain fault conditions the following messages may be displayed on the controller.

Message	Possible fault / Condition	Action
	The controller has reverted to its default setup.	Contact Parker Hannifin.
	The temperature is over range. The controller configuration does not match the thermocouple.	Contact Parker Hannifin.
	The temperature is under range. The controller configuration does not match the thermocouple.	Contact Parker Hannifin.
	The input sensor is open circuit.	Contact Parker Hannifin.

6.2 Hydrocarbon level is a above 0.1ppm.

Indication	Possible fault / Condition	Action
Poor quality results, downstream monitoring	The generator is not powered	Check the following: **1** the generator is connected to a 'Live' supply. **2** the ON / OFF switch in is the 'I' position. **3** the fuse in the IEC320 socket and the fuse in the plug of the supply cable (UK only). **4** the electrical supply cable is not damaged. Contact Parker Hannifin.
	The compressed air supply is contaminated.	Carefully open the drain on the inlet filter on the rear of the generator. If condensate flows from the drain the compressed air supply is not the required quality. A small compressed air dryer should be installed upstream of the generator. Contact Parker Hannifin.
	The Heater / Catalyst is faulty	Contact Parker Hannifin.
	Excessive flowrate.	Ensure that a high purity flow meter is installed down stream of the generator as recommended in section three of this manual. Refer to the technical specification for maximum flow rate data.

6.3 The controller display will not illuminate

Indication	Possible fault / Condition	Action
-	The generator is not powered	Check the following: **1** the generator is connected to a 'Live' supply. **2** the ON / OFF switch is in the 'I' position. **3** the fuse in the IEC320 socket and the fuse in the plug of the supply cable (UK only). **4** the electrical supply cable is not damaged. Contact Parker Hannifin.
	Faulty controller or internal wiring fault.	Contact Parker Hannifin.

6.4 Excessive downstream temperature

Indication	Possible fault / Condition	Action
Downstream monitoring.	Faulty cooling fan.	Contact Parker Hannifin.
	The vents on the chassis of the generator are blocked	Check that the vents are not blocked and air is flowing correctly.
	Inlet / outlet ports incorrectly connected	Check that the generator is correctly connected.
	The flow of air through the generator is too low.	Verify that the flow rate matches that specified in section 2.1 for the generator.

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