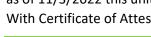


## SHFA Model 100

### Scalable Hydrogen Fueling Appliance

as of 11/3/2022 this unit cost \$175,000 USD With Certificate of Attestation to CSA Group IR 3-18



**SHFA Model 100** 

**DESCRIPTION** 

240 Volt AC single Phase at 50 amperes





Palletized, 2 kilogram per day production, Scalable Hydrogen Fueling Appliance With 4 kilograms storage at 6,000 psi with fixed orifice fueling and J2600 nozzle J2719 fuel quality

#### **ELECTROLYTE**

Alkaline = NaOH Sodium Hydroxide at less than .75% by weight Electrolyte 5.5 ounces NaOH to 5 gallons water

### **HYDROGEN PRODUCTION**

ı	Ν	let	Prα	าดเ	ıcti	ion	Rate:

If Continuously run at maximum voltage 35 scfm scf/hr @ 70 F Nm3/hr @ 0 C and amperage, output will vary site to site .9 Nm3/hr SLPM @ 70 F 18.1 liters/min based on available power kg per 24 hours

H2 stack Delivery Pressure-Nominal:

Power Consumed per kilogram of H2 Gas produced by the

Stack

Purity from Stack Purity after flowing thru Honey Comb Purifier Twin dryers w/Silica Gel

Oxygen Scrubber Upgradeability / production and storage

Power Consumed per kilogram of H2 Gas produced, purified & compressed to 350 bar

2 kg/24hr

10.16 barG (150 PSIG) stack

48 KWH per Kilogram

99.95% 99.998% Included

Yes

Included

48 Kilowatt hours of electricity to produce 1 kilogram of hydrogen

Third Party Test Preformed

58 kwh per kg. optimized



# **SHFA Model 100**

WATER REQUIREMENT					
Rate at Max, Consumption Rate	.719 Liters/hr or.19 gal/hr.( 2.3 gallons/kg.)				
de-ionized, distilled or filtered rain water	De-Ionizer and activated charcoal filter included in package				
Tanks and stacks total capacity	20 gallons				
COOLING SYSTEM	20 gailons				
Coolant	Water/Ethylene Glycol				
Maximum Coolant Temperature	160F				
Average Coolant Temperature	150F				
Coolant Flow rate					
Coolant Flow rate	14 gpm.				
ELECTRICAL SPECIFICATIONS 240 Volt AC single Phase a	t 60 amneres				
Breaker Rating	50 amp 2 pole				
Electrical connection both male and female plug included	240VAC through a DSN 60 Meltric 60 amp plug with power cut off built in				
Automation:	2- TECO PLCs				
Average electrolyzer power input	4,250 watts Varies Based on Site Location Line Voltage and ambient Temp.				
Compressor power	1,440 Watts 50% duty cycle				
INTERFACE CONNECTIONS					
H2 Product Port	9.525 mm (3/8")				
H2 Vent Port	9.525 mm (3/8")				
Water Port	12.7 mm (1/2 ")				
Coolant Supply and Return Ports	12.7 mm (1/2 ")				
Drain Port	12.7 mm (1/2 ")				
O2 Vent Port	9.525 mm (3/8")				



## **SHFA Model 100**

<b>CONTROL SYSTEM</b>	S						
Standard Components	Electrolyzer Purifier Compressor Storage Dispenser	Features	Fully automated 2 kg/day On-board H2 leak & heat detection audible and text alarm system Battery Backup for PLC 14/92 twin piston electric compr E stop Automatic power shutdown 4 kg onboard storage at 6,000 psi Automatic fault detection 350 bar J2600 fueling Nozzle				
	PLATFORM CHARACTERISTICS						
Model 100 Total W	ns, WxDxH (Product) Veight		7' 4" w x 4 ' 1" D 7' 1" H 3,700 pounds				
ENVIROMENTAL C	ONSIDERATIONS						
Standard Sitting Location			Indoor ventilated/Sheltered/outdoor				
Ambient Temperature fueling Range // operating			2 C to 33 C ( $35.6F$ to $91.4F$ ) // electrolyzer operations 33 F to 100 F				
Ventilation			Proper ventilation must provided for indoor use at a rate in accordance with NFPA 2 10.3.2.2.1.6				
<b>SAFETY and REGU</b>	LATORY CONFORMITY						
Maximum On-boa	rd H2 Inventory at Full Production		4 kg				
Cabinet Ventilation with Environment			Yes				
Oxygen Flashback	arrestor		Yes				
200 PSIG Pressure Relief Relief Valves			yes				
Temperature Cont	rol		Yes				
Equipment orienta	ition is part of mandatory training						
	standards CSA IR 3-18 that include n a 2.5 ton Pallet Jack		ISO 22734-1 & 2, NFPA 2, applicable ASME, CSA 4.1				

### **STORAGE**

The Model 100 comes standard with Four DOT 3 A receivers at 6,000 psi max working pressure manifolded together.

6,000 psi key activated auto solenoid valve separating storage from dispensing

expansion port with valve provided to accommodate additional external storage available in six packs of 6 kilograms each

### **OPTIONS**

Increased internal storage in 2 kg increments to 6kg for a model 102 and 8 KG for a model 104. Could add external Storage in 6 kg units order extra compressor seals in advance and desiccant and water filters

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