



SHFA Model 200
Scalable Hydrogen Fueling Appliance

Cost for one = \$150,000.00



DESCRIPTION

SHFA Model 200

Palletized, 4 kilogram per day production, Scalable Hydrogen Fueling Appliance
 With 8 kilograms storage at 6,000 psi with fixed orifice fueling and J2600 nozzle

240 Volt AC single Phase at 60 amperes

J2719 fuel quality
 With Certificate of Attestation to CSA Group IR 3-18 Area class = Non Classified

ELECTROLYTE

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

HYDROGEN PRODUCTION

Net Production Rate:

scf/hr @ 59 F
 Nm3/hr @ 0 C
 SLPM @ 59 F
 kg per 24 hours

70 scfm
 112 Nm3/hr
 33 liters/min
 4 kg/24hr

If Continuously run at maximum voltage
 and amperage, output will vary site to site
 based on available power

H2 stack Delivery Pressure-Nominal:

10.16 barG (150 PSIG) stack

Power Consumed per kilogram of H2 Gas produced by
 Purity from Stack

48 KWH per Kilogram
 99.95%

48 Kilowatt hours of electricity to

Purity after flowing thru Honey Comb Purifier

99.998%

Third Party Test Preformed

Twin dryers w/Silica Gel

Included

Oxygen Scrubber

Included

Upgradeability / storage

yes

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

53 kwh per kg. optimized



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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	25 gallons

COOLING SYSTEM

Coolant	Water/Ethylene Glycol
Maximum Coolant Temperature	160F
Average Coolant Temperature	150F
Coolant Flow rate	14 gpm.

ELECTRICAL SPECIFICATIONS 240 Volt AC single Phase at 60 amperes

Breaker Rating	60 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	8,500 watts Varies Based on Site Location Line Voltage and ambient Temp.
Compressor power	1,440 Watt 70% 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")



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CONTROL SYSTEMS

Standard Components	Electrolyzer Purifier Compressor Storage Dispenser	Features	Fully automated 4kg/day audible and text alarm system 14/50 twin piston electric compressor Automatic power shutdown Automatic fault detection	On-board H2 leak & heat detection Battery Backup for PLC E stop 8 kg onboard storage at 6,000 psi 350 bar J2600 fueling Nozzle
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PLATFORM CHARACTERISTICS

shipping Dimensions, WxDxH (Product)	7' 4" w x 4' 1" D 7' 1" H
Model 200 Total Weight	5,000 pounds

ENVIROMENTAL CONSIDERATIONS

Standard Sitting Location	Indoor ventilated/Sheltered/outdoor
Ambient Temperature fueling Range // operating Ventilation	2 C to 33 C (35.6 F to 91.4 F) // electrolyzer operations 33 F to 100 F Proper ventilation must provided for indoor use at a rate in accordance with NFPA 2 10.3.2.2.1.6

SAFETY and REGULATORY CONFORMITY

Maximum On-board H2 Inventory at Full Production	8 kg
Cabinet Ventilation with Environment	Yes
Oxygen Flashback arrestor	Yes
200 PSIG Pressure Relief Relief Valves	yes
Temperature Control	Yes
Equipment orientation is part of mandatory training built to codes and standards CSA IR 3-18 that include can be moved with a 2.5 ton Pallet Jack	ISO 22734-1 & 2, NFPA 2, applicable ASME, CSA 4.1

STORAGE

The Model 200 comes standard with eight 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 storage by adding external Storage in 6 kg units up to 24 kg additional
order extra compressor seals in advance and desiccant and water filters