

# TITAN™ EL SERIES - DUAL MODULE

## On-site Hydrogen Generation System

Teledyne Energy Systems builds decades of engineering excellence into every hydrogen generator system, ensuring the most reliable and durable on-site hydrogen solutions available.

### TITAN™ EL Advantages

#### Ultra Pure Gas

Ultra pure (99.9998%) gas generation increases equipment life, saving considerable maintenance and replacement costs.

#### Modular Design

The TITAN™ EL Series features a modular design engineered for ease of site integration and maintenance, and comes skid-mounted for trouble-free shipping and installation.

#### Safe, Unattended Operation

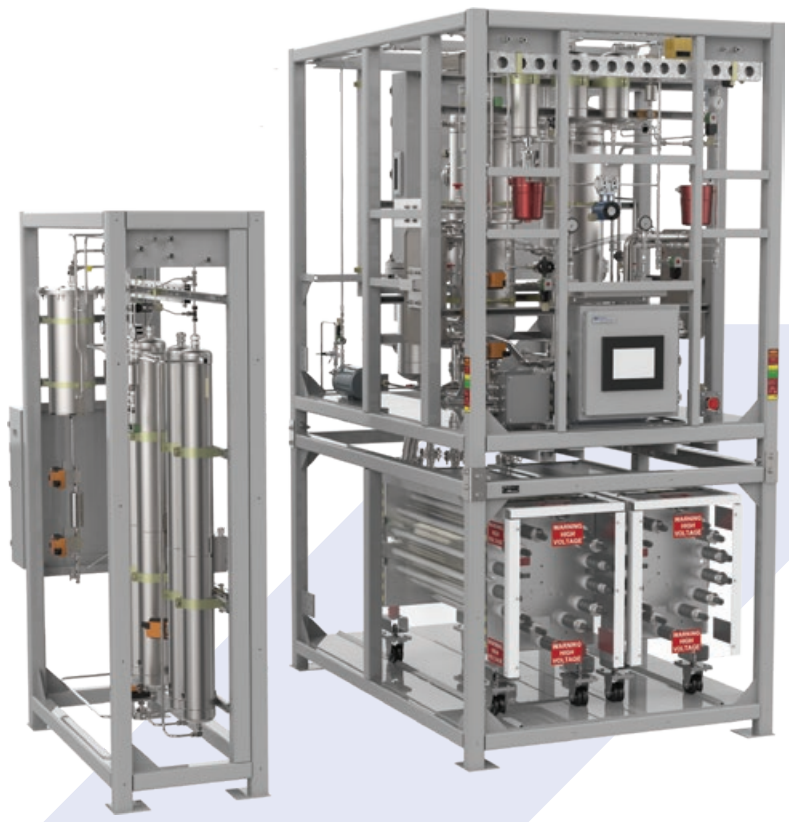
- PLC controlled with 10" HMI touch-screen interface
- Minimal on-board gases and no sparking components
- Uninterruptible Power Supply (UPS) ensures system control in the event of power outage
- Remote monitoring and operation option
- O<sub>2</sub> byproduct is safely vented outside your facility or can be optionally configured for use in your process

#### On Demand Gas Delivery

- Pressure up to 150 psig (10 barg)
- Maximum flow delivery of 1400 SLM

#### Fully Tested

Each unit is thoroughly factory-tested to meet Teledyne's exacting standards and exceed industry codes for quality and safety.



**Electrolysis module.**

**Stainless steel process piping** maximizes generator's lifetime.



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MODEL		EL-1000	EL-1200	EL-1400
<b>Hydrogen Gas Production</b>				
Max Flow Rate	SLM	1000	1200	1400
	Nm <sup>3</sup> /hr	56	66	78
	scfh	2119	2542	2966
	kg/day	120	144	168
Hydrogen Delivery Pressure	Bar gauge	6.89 to 10.3		
	psig	100 to 150		
Hydrogen Purity	%	99.9998 % *		
<b>Oxygen Gas Production</b>				
Max Flow Rate	SLM	500	600	700
	Nm <sup>3</sup> /hr	28	33	39
	scfh	1059	1271	1483
	kg/day	954	1145	1336
Oxygen Delivery Pressure	Bar gauge	3.4 to 5.5		
	psig	50 to 80		
Oxygen Purity	%	99.998 % *, **		
* Subject to ambient and cooling water temperatures, as well as dissolved gas contained in Feed Water A separate supply of cold (11°C) cooling water is required				
** With use of Oxygen Purification Package supplied separately. A separate supply of cold (11°C) cooling water is required.				
<b>Pressurizing Gas</b>				
Nitrogen or other inert gas				
Pressure	Bar gauge	4.2 to 7		
	psig	6 to 100		
Average Consumption for Start-Up & Shut-Down	Nm <sup>3</sup>	.63		
	scf	24.3		
<b>Feed Water</b>				
ASTM D1193-06 (2011) Type II				
Consumption	l/hr	56.18	67.42	78.66
	gph	14.48	17.81	29.77
Minimum Pressure	Bar gauge	.4		
	psig	6		
Max Conductivity	µS/cm	1		
<b>Power Supply</b>				
Voltage		Factory Configured, 380 – 480 vac 3 phase		
Frequency		50 or 60 Hz		
<b>Generator Main Cooling Water</b>				
Max Temperature	°C	40		
	°F	104		
Max Flow	lpm	160.5	191.4	222.2
	gpm	42.4	50.5	58.6
Max Pressure	Bar gauge	10		
	psig	150		
Pressure Drop	Bar gauge	2		
	psig	30		
Main Heat Load	kW	140	165	195
<b>Condenser Cooling Water</b>				
Max Temperature	°C	10		
	°F	50		
Max Flow	lpm	18.8	21.3	23.8
	gpm	4.95	5.61	6.27
Max Pressure	Bar gauge	10		
	psig	150		
Pressure Drop	Bar gauge	1		
	psig	15		
Condenser Heat Load	kW	9	10.5	12
<b>Hydrogen Dryer Cooling Water</b>				
Max Temperature	°C	10		
	°F	50		
Max Flow	lpm	9.1		
	gpm	2.4		
Max Pressure	Bar gauge	10		
	psig	150		
Pressure Drop	Bar gauge	2		
	psig	30		
Hydrogen Dryer Heat Load	kW	2.5	2.8	3.3

Normal Conditions: 0°C and 1 atm (32°F and 14.7 psia). Standard Conditions: 20°C and 1 atm (68°F and 14.7 psia). System to be installed indoors in a protected environmental between 5°C and 50 °C. Specifications subject to change.