

## 54kW DIA-S System

The DIA-S 54 kW is built for demanding industrial operations requiring continuous, high-volume hydrogen supply; combining consistent performance, maximum purity, and robust engineering for energy-intensive production environments.



### Hydrogen Production

|                                                         |                                                                        |
|---------------------------------------------------------|------------------------------------------------------------------------|
| <b>Production rate</b>                                  | 11.6 Nm <sup>3</sup> /h<br>434.9 SCF/h<br>24.8 kg/day                  |
| <b>Delivery pressure nominal / Max</b>                  | 10 bar (145 psig) nominal ·<br>Maximum operating range<br>up to 15 bar |
| <b>Power efficiency per unit H<sub>2</sub> produced</b> | 4.6 kWh/Nm <sup>3</sup> · 51.7 kWh/kg                                  |
| <b>H<sub>2</sub> purity</b>                             | 99.9995%<br><1.9 ppm<br>-80°C dew point                                |
| <b>Turndown range</b>                                   | 0 to 10 bar at 6–8 min at<br>440 Amps                                  |
| <b>Upgradeability</b>                                   | N/A                                                                    |

### Interface Connections

|                                   |                                                                                                          |
|-----------------------------------|----------------------------------------------------------------------------------------------------------|
| <b>H<sub>2</sub> product port</b> | ½" BSPP                                                                                                  |
| <b>Vent / Water / Drain</b>       | H <sub>2</sub> /H <sub>2</sub> O & O <sub>2</sub> Vent: ½"<br>BSPP · DI Water In: ½"<br>BSPP · Drain: ¼" |

### DI Water Requirements

|                                      |                                                                                                                |
|--------------------------------------|----------------------------------------------------------------------------------------------------------------|
| <b>Consumption at max production</b> | 3.0 L/h                                                                                                        |
| <b>Temperature / Pressure</b>        | 45–50°C<br>3–7 barg                                                                                            |
| <b>Input water quality</b>           | Required: ASTM<br>Type II DI, <1 µS/cm<br>(>1 MΩ-cm) ·<br>Preferred: ASTM<br>Type I, <0.1 µS/cm<br>(>10 MΩ-cm) |
| <b>Coolant</b>                       | Refrigerant cooled                                                                                             |

### Heat Load & Electrical

|                                         |                                                                                     |
|-----------------------------------------|-------------------------------------------------------------------------------------|
| <b>Max heat load</b>                    | 6.0 kW                                                                              |
| <b>Max power required (system life)</b> | 5.6 kVA                                                                             |
| <b>Electrical supply</b>                | 415V 3-Phase (±10%<br>from nominal) ·<br>Connect to on-<br>board circuit<br>breaker |
| <b>Communications</b>                   | RS485 · Remote<br>shutdown via<br>hardwire input to<br>safety PLC                   |

**Physical Characteristics**

|                                   |                                |
|-----------------------------------|--------------------------------|
| <b>Dimensions W×D×H (Product)</b> | 256×156×160 cm<br>100"×62"×63" |
| <b>Weight product / Shipping</b>  | 2,700 kg /<br>3,200 kg ship    |
| <b>Cabinet ventilation</b>        | 9,600 m <sup>3</sup> /min      |
| <b>Noise level at 1 metre</b>     | <120 dB(A)                     |

**Environmental Conditions**

|                                                 |                                                                                          |
|-------------------------------------------------|------------------------------------------------------------------------------------------|
| <b>Standard siting</b>                          | Indoor · Level ±1° · 0–90% RH non-condensing<br>· Non-chemical, non-corrosive atmosphere |
| <b>Ambient temperature / Storage</b>            | 5–40°C<br>41–104°F                                                                       |
| <b>Altitude range</b>                           | Sea level to 1,520 m<br>(5,000 ft)                                                       |
| <b>On-board H2 inventory at full production</b> | NIL                                                                                      |

**Standard Features**

|                                                                       |
|-----------------------------------------------------------------------|
| <b>Fully automated push-button start/stop</b>                         |
| <b>Load following operation - auto adjusts output to match demand</b> |
| <b>Tank filling mode</b>                                              |
| <b>Full differential pressure H2 over O2</b>                          |
| <b>Automatic fault detection &amp; system depressurization</b>        |
| <b>Emergency stop</b>                                                 |
| <b>Safety PLC remote shutdown (hardwire input)</b>                    |
| <b>Optional IoT connectivity</b>                                      |
| <b>RS485 communications</b>                                           |
| <b>PEM caustic-free electrolysis</b>                                  |
| <b>Conforms to ISO 22734-1</b>                                        |