Tiaano®
Hydrogen Generator

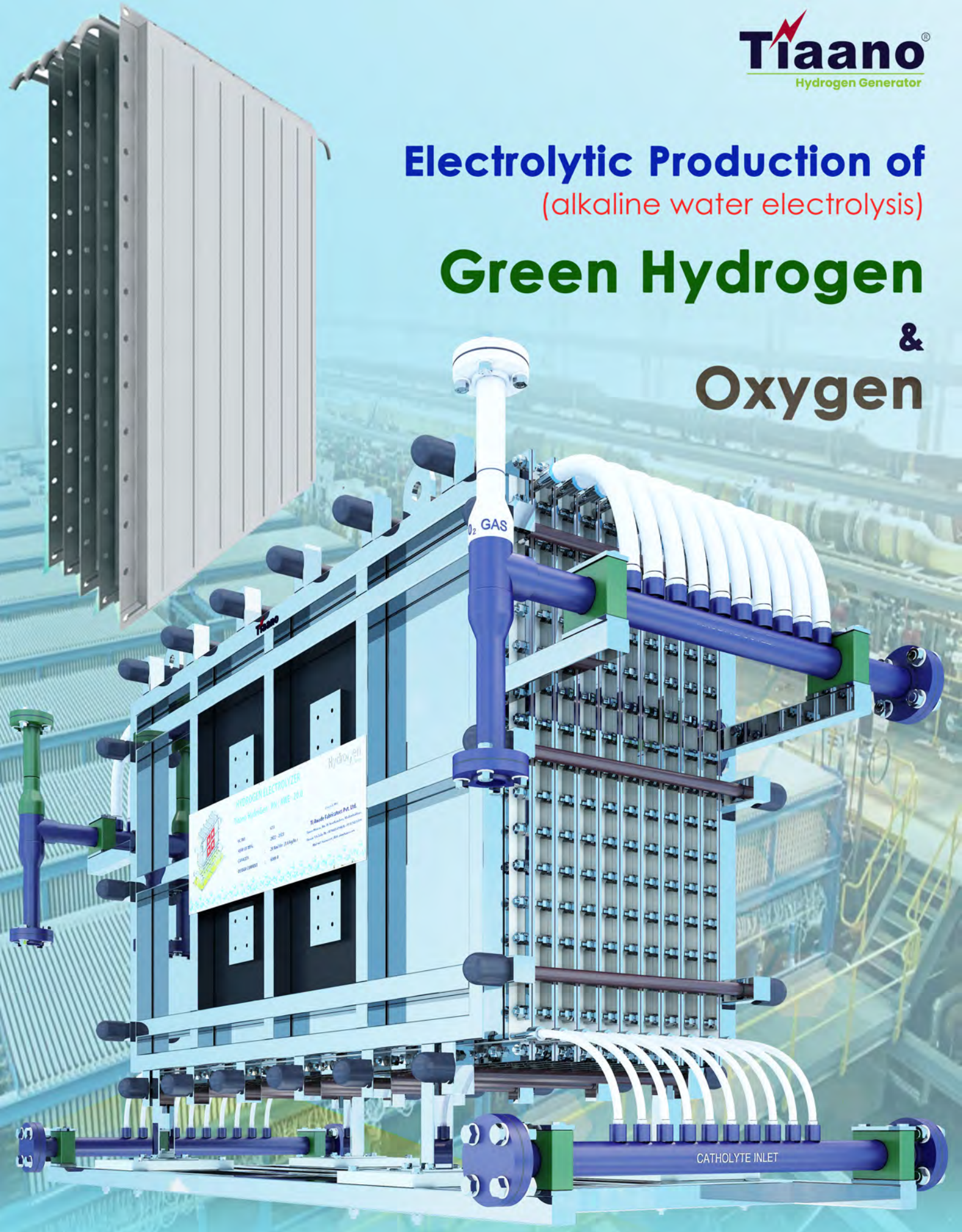
Electrolytic Production of

(alkaline water electrolysis)

Green Hydrogen

&

Oxygen



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5+
Manufacturing Facilities

Tiaano®
Hydrogen Generator

Caustic Potash Electrolyte 25% - 30% w/v is fed into the specially designed Tiaano Membrane Electrolyzer. In the electrolyzer, water is split into hydrogen and oxygen gas using DC current (electric energy). Hydrogen gas is evolved at the cathode side of the electrolyzer and exists through cyclonic separator towards the hydrogen gas manifold channels. Hydrogen gas is fed to further drying, purification, compression and storage.

Green Hydrogen Technical data:

Skid availability:

Production Capacity of H_2 : 1.0 (Nm^3 / Hr.) to 500.0 (Nm^3 / Hr.)

Specification:

Hydrogen Purity (V/V) from Electrolyzer (%)	: ≥ 99.8
Oxygen Purity (V/V) from Electrolyzer (%)	: ≥ 99.2
Water Content in H_2 (g/Nm^3 of H_2)	: ≤ 4
Alkali Content in H_2 (mg/Nm^3 of H_2)	: ≤ 1
H_2 Purity after Purification	: 99.999%; O_2 – less than 2ppm
	Atm. Dew point: –70°C

Operation:

Alkaline Concentration	: 25% t0 30% Caustic Potash W/V
DM Water Consumption at Full Power (LPH)	: 1.0 for 1M^3/Hr. H_2 Production
Working Pressure (Kg/cm^2)	: 2 ~ 3
Operation Temperature (°C)	: 50 ~ 60
Room Temperature (°C)	: 5 ~ 35

Design:

Operating CD (A/M^2)	: 2000 ~ 2500
Cell Operating DC Load (kWh)	: 4.56 per 1M^3/Hr. H_2 Production
AC Incoming power (V)	: 430 ± 10%; 50 Hz

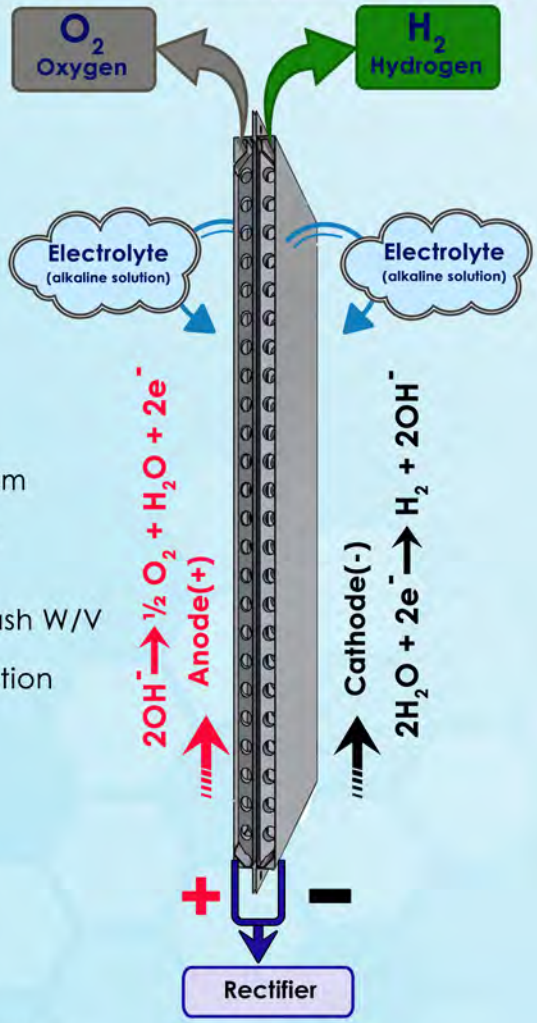
Material of Construction:

Electrolyzer	: Nickel as per ASTM B 162 Gr. 201(Activated)
Accessories	: Stainless Steel 316 / 304, Copper, Teflon.
Piping	: Flanged Connection

Application:

- Ammonia Production
- Power Plant
- Oil and Gas Industry
- Steel Industry
- Hydrogenation of Oil
- Hydrogen Filling Stations (Transport)

Principle / Production Chart



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