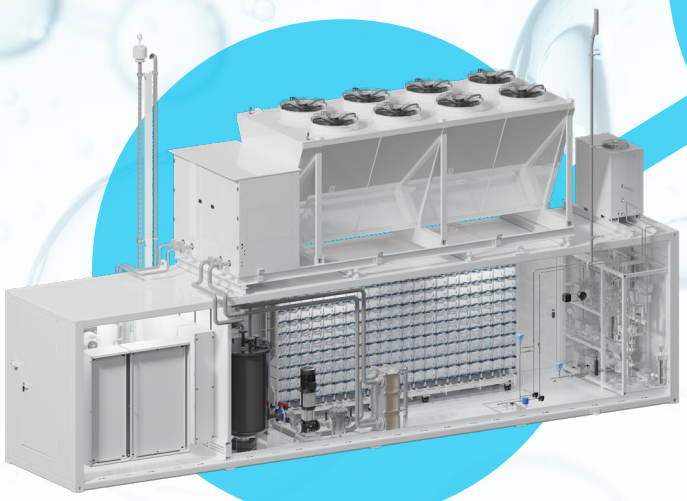
This is a draft datasheet, technical specifications are subject to change.

H2 CoreSystems

NEXUS 500

OUR COST EFFICIENT 500KW CONTAINERISED ELECTROLYSER



NEXUS 500

This AEM Nexus 500 is a 500 kW containerised electrolyser largely pre-assembled for fast commissioning featuring 210 AEM stack modules around a common balance of plant (BoP).

H_2 nominal flow	105 Nm^3/h 226.5 kg/24h	Net volume flow rate
H_2 outlet pressure	Up to 35 barg	
H_2 purity	99.95% in molar fraction, equals dew point of -30 °C	Impurities: H_2O < 500 ppm, O_2 < 5 ppm
H_2 purity with optional dryer	99.999% in molar fraction, equals dew point of -65 °C	Impurities: H_2O < 5 ppm, O_2 < 5 ppm ≈ 5 kW consumption during regeneration
H_2 outlet temperature	5 – 55 °C	
O_2 nominal flow	52,5 Nm^3/h	Vented at atmospheric pressure
Nominal power consumption	504 kW 600 kW	Beginning of life (BOL) Near end of life (EOL)
Voltage	3 × 400 VAC	±10 %
Frequency	50/60 Hz	± 10 %; THD < 5 %
H_2O nominal consumption	95 L/h	Purified water
H_2O inlet quality	Minimum ASTM D1193-06 Type IV or recommended Type II or Type III[1]	
H_2O inlet temperature	5 – 55 °C	1 – 4 barg
Operational flexibility	3% – 100%	Of nominal H2 flow rate
Turndown ratio	33:1	Maximum flow/Minimum flow
Specific power consumption (Efficiency)	4.8 kWh/Nm^3H_2 53.3 kWh/kgH_2 62.5% (LHV)	Including all utilities inside the battery limits of the AEM Nexus 500 (at BOL)

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NEXUS 500

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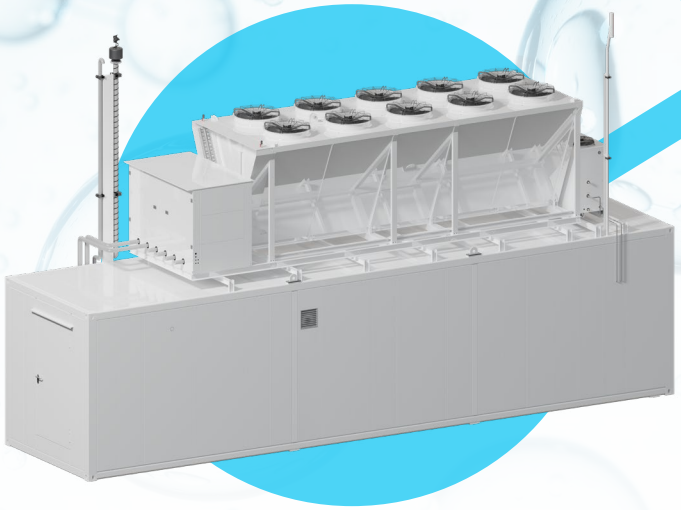
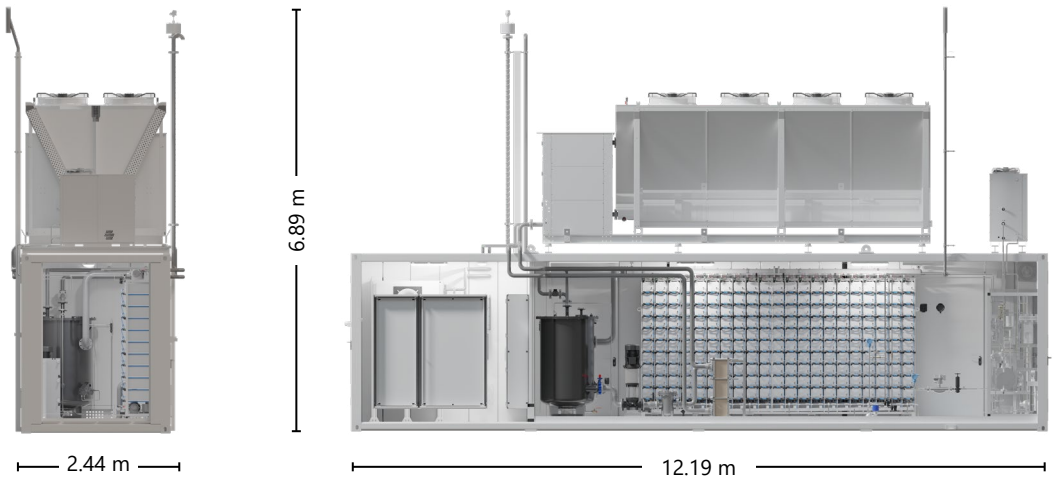


Hot startup time	0 – 100% in 100 seconds	Electrolyte is at min. 35 °C
Cold startup time	0 – 100% in 30 minutes	Assuming 5 °C ambient temperature
Shut down time	100 – 0 % in 3 minutes	Normal, gradual shut down
Hot standby power consumption	80 kW Max.	Stacks are hydrated and electrolyte circulates at min. temperature (35 °C)
Cold standby power consumption	10 kW Max.	All components in standby; container heating is on (only with < 5 °C ambient)
Ambient operating temperature	-15 – 35 °C	Up to 45 °C with hot-ambient version
Sound Pressure Level	62 db(A) Max.	At 10 m (Including all utilities)
Process heat output	150 kW	BOL; ≈ 50 °C
Dimensions	12.19 × 2.44 × 6.89 m	(L × W × H)
Weight	≈ 31 tons	



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